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Vol. XIX Cleveland, Ohio, September 28, 1927 No. 39

Petroleum Exposition Well Launched Despite Rainy Opening Days

Staff Telegram
TULSA, Sept. 26

ONE of the finest industrial exhibits ever assembled lacked spectators at its beginning. Rain, which started falling early Saturday, the opening day of the International Petroleum Exposition, continued part of Sunday and all day Monday. The result was that exhibitors were occupied in showing their wares to each other.

A fair crowd came out Sunday afternoon, about 6,000 people passing through the gates. Exposition officials said Monday that the show probably would be continued for two or three days longer than originally planned. The closing date had been set as Oct. 1.

The exhibits measure up fully to those of the 1924 exposition, the previous largest one. Much that is new in equipment for all divisions of the industry is being displayed for the first time and it all makes up an excellent panorama of methods employed by the industry from the latest applications of science in finding oil on through producing and refining to distribution to the consumer.

A feature of Monday was the awarding of the gold medal offered by John D. Rockefeller, senior to the oldest oil man. The award was to J. A. Stephenson, of Tulsa, who was born in 1846, started work in the oil business in 1860 and is still at it. The award was on the basis of continuous years of service. There were 50 entrants and 15 of them were present.

The outdoors exhibits, although getting the worst of it from the rain, are the busiest on the grounds, for motion is the keynote of this part of the exposition.

Drilling wells, pumping wells, compressor plants, engines, trucks, tractors, all in motion, give a complete cross-section of an intensive drilling campaign and modern methods of production. The scene is dominated by seven derricks, five of all-steel construction and two of the combination type. Two wells are spudding with cable tools while one is going down with rotary.

Compressor companies are showing their latest developments in machinery designed especially for gas-lift operation, while gas and oil-burning drilling engines are also prominent. All this heavy machinery is running under field conditions. The famous "chicken farm" well which has been a feature of all previous shows, is making its fourth attempt to find oil on the exposition grounds and may get it this time as the grounds are just across the fence from an old shallow field.

MANUFACTURERS of natural gasoline plant equipment are keeping no secrets from their customers or prospects. Glass absorbers in action, animated flow charts, and cutaway models of equipment show just what it is and how it works.

For refiners there is a wealth of exhibits showing recording and control devices, valves and fittings, furnace and boiler specialties and other small equipment.

There are a dozen or more continuous motion picture shows in progress in the three large exposition buildings.

Arrangements had been made for President Coolidge to open the Exposition by pressing a key in Washington. To indicate at the Tulsa end that this had been done an ingenious dramatization of the discovery of oil had been arranged. Inside the replica of the Drake rig, which was completely enclosed, was a small tank of Pennsylvania crude oil, shipped out by John T. Dillon, Jr., of the Titusville Forge Co. Mr. Dillon said this oil had been obtained from a well about 50 feet from the site of the old Drake well. Back of this tank of oil was a steam pressure of 180 pounds. When the president pushed the key, the electrical impulse was to release the valve that held the steam and the oil would be sprayed. The Drake well would be a gusher.

IT WORKED too well. The force was so great that several boards at the top of the Drake rig were knocked off. The president probably never opened an exposition as violently as he did on this occasion.

Mr. Dillon had also sent about 50 cattails from Pennsylvania and it had been planned to stage an old fashioned cattail parade around the well, with the weeds soaked in oil and set afire. This part of the ceremony was postponed until later.

Harry H. Smith, secretary of the Mid-Continent Oil & Gas Association, presided at the opening ceremony and short talks were made by Governor Johnston, of Oklahoma; Mayor H. F. Newblock, of Tulsa and Alf G. Heggem, president of the Tulsa Chamber of Commerce.

Hotel space is all taken and the committee in charge of housing started early last week to ask Tulsa people to open their homes to visitors who were unable to make other arrangements. It was impossible at the end of the week even to find a furnished apartment not spoken for. From this evidence it appeared that this year's "foreign" attendance will equal or surpass that of any of the three previous Expositions.

Tax Problem May be Handled By A.P.I. at a Chicago Office

By Ward K. Halbert
N. P. N. STAFF WRITER

CHICAGO, Sept. 21

TAXATION of the petroleum industry, especially the popular and growing commodity tax on gasoline, has become a national problem upon which the many units of the business, large and small, need unity of action. That was the concensus of opinion among a group of oil company representatives who met in the Stevens Hotel, Chicago, Sept. 20, to figure out a course of action.

The American Petroleum Institute arranged the conference and the Institute was represented by R. L. Welch and M. W. Mattison. It was called at the suggestion of some of the western members and directors who want two things, (1) a department of the Institute devoted to matters of public relations and taxation, and (2) a branch office of the Institute in Chicago. Developments at the meeting indicate that both might develop in the near future.

In his preliminary talk to those who gathered at 10 o'clock Tuesday morning, Mr. Welch explained that a Chicago office for the Institute was a thing the directors would have to approve but one which he believed they would approve without protest upon being shown that there was a big, clearly defined, task to be done in Chicago and that the A.P.I. was the proper agency to carry it on. A date for opening the office will not be considered until after a man has been chosen and his duties defined.

WHETHER a man from the present staff of the Institute will be delegated to handle the work in Chicago or whether a new man will be employed is a matter yet undetermined. Mr. Welch ventured the opinion that the work would be handled by new secretarial timber because the New York organization has no man to spare.

The conference to contemplate this new activity of the American Petroleum Institute was arranged about a month ago, by a circular letter to its directors. Each director was asked to designate a man to attend the conference. Those present were of no particular class of oil men. There were attorneys, tax experts, marketing executives and public relations men, mostly of the middle west.

Those present were uniformly familiar with the gasoline tax situation as it exists in the United States since the close of the various state legislatures that met this year. Here are some of the important matters of general information on the subject:

Forty-six states tax gasoline—all except New York and Massachusetts. District of Columbia also has a gasoline tax. Two states which never had a gasoline tax before voted a 2-cent levy during 1927. They are Illinois and New Jersey. Twenty states raised the rate of their gasoline taxes this year. The old 1-cent tax, first advocated by the politicians, has vanished entirely. The lowest rate now is 2 cents. Five southern states have a 5-cent tax.

GASOLINE taxes are growing larger. No state has ever lowered its gasoline tax rate. Every state whose legislature has met since it voted a gasoline tax has raised the rate except five (out of a total of 44). In at least three of those five states bills to increase the rate were narrowly defeated. The tax in 1926 amounted to approximately $185,000,000 and some think it will run close to a million dollars a day in 1927.

The danger involved in the steadily increasing tax rate was the ground upon which the men in the conference oppose the gasoline tax. None of the old, hackneyed, arguments for and against gasoline taxation were considered. They viewed it as a national problem in which the oil industry and the motoring public are chiefly concerned.

THERE were attorneys present but they did not assail commodity taxes as a violation of American principles of taxation. The peculiar burden of a gasoline tax upon truck fleet operators and therefore upon oil distributors was not mentioned. Mr. Mattison touched the key note of the discussion in about the following words:

"A comparison of prices on commodities in general use will show that gasoline has been relatively the cheapest commodity in the American retail market during the years that the special tax has been imposed upon it. Because of the cheapness of gasoline the public has not felt the burden of state taxes. But in the event that gasoline should regain its normal relative price and special taxes continue to increase, as the present tendency indicates, the tax would be a sufficient burden to stimulate a popular resentment at the oil industry and the taxing agencies both."

It was mentioned at the conference that the state officials whose duty it is to administer the 46 gasoline tax laws in the country will hold their second annual conference at the Deshler-Wallick Hotel in Columbus, O., Oct. 3, 4 and 5. Several of the oil men present expressed their intention of being at the conference or having representation there. It came to light that Frank E. Packard, head of the tax department of the Standard Oil Co. of Indiana, has been asked to appear on the program.

Index to Coming Meetings

North American Gasoline Tax Conference, Deshler - Wallick Hotel, Columbus, O., Oct. 3, 4, 5.

Big Four State Jobbers, Kansas City Athletic Club, Kansas City, Mo., Oct. 4, 5, 6.

Missouri Oil Men's Association, Kansas City Athletic Club, Kansas City, Oct. 4, 5 and 6.

Fuels Division, American Society of Mechanical Engineers, St. Louis, Mo., Oct. 10, 11, 12, 13.

Wisconsin Independent Oil Jobbers association, Plankinton Hotel, Milwaukee, Oct. 12.

California Natural Gasoline Association, Biltmore Hotel, Los Angeles, Oct. 15 and 16.

Petroleum Division, A. I. M. E., Texas Hotel, Fort Worth, Tex., Oct. 19, 20.

Virginia Independent Oil Men's Association, Monticello Hotel, Norfolk, Va., Oct. 20, 21.

Independent Oil Men of America, Congress Hotel, Chicago, Oct. 24, 25, 26.

Natural Gas and Petroleum Association of Canada, Prince Edward Hotel, Windsor, Ont., Oct. 28.

American Oil Men's Association, West Baden Springs Hotel, West Baden, Ind., Nov. 2, 3, 4.

Indiana Independent Petroleum Marketers Association, West Baden Springs Hotel, West Baden, Ind., Nov. 3.

American Petroleum Institute, Hotel Stevens, Chicago, Dec. 6, 7, 8.

Ohio Petroleum Marketers Association, Neil House, Columbus, O., Feb. 23, 24.

Accessibility Governs Service Station Design So Buying May be Easy

By Roger B. Stafford

N. P. N. STAFF WRITER

CLEVELAND, Sept. 27

NOT many years ago when an oil and gasoline marketing company decided to put a filling station at some good business corner or along some street where automobile traffic was fairly heavy, it was customary to order a small sheet iron shack or a few hundred feet of lumber, a 550-gallon tank, one or two pumps, and several cubic yards of cinders, gravel or crushed stone.

This age in the history or evolution of the filling station was followed by a little more careful selection of site as to business possibilities and traffic, the use of more and better dispensing equipment, air compressors, air and water towers, oiling and greasing facilities and a general "dolling up" of the station building and the surrounding ground.

This second age is not in the distant past. It may not have passed in many communities or from the practices of some companies. But it has passed from practice of many of the marketing companies that today are making money and growing. Service station location, design, and equipment have been placed by many companies on a sound scientific and economic basis.

Stations in this third age are built to earn profits and the men back of them are relying on good business and engineering knowledge for guidance.

Just as the United Cigar Stores years ago counted the number of men that passed a likely corner before they set about to acquire a lease on a storeroom on that corner, successful oil company managers are checking the traffic that flows past a corner before they are willing to buy or lease that corner.

In the opinion of some marketing company managers a site must have other things besides heavy traffic on one or two sides. One of the chief things a service station site must possess is accessibility—ease of entrance and exit for the largest automobile and if in a commercial district or along a commercial lane for trucks and probably busses.

After a site is selected, the next problem is to make the most advantageous layout to handle the expected trade quickly and conveniently.

Buildings and equipment may be standardized but it is difficult to standardize corner lots. Usually each site presents a problem in itself.

"What principles underlie your layout designs," Douglass S. Campbell, vice-president, and H. A. Smith, superintendent, Pocahontas Oil Co., Cleveland, were asked recently.

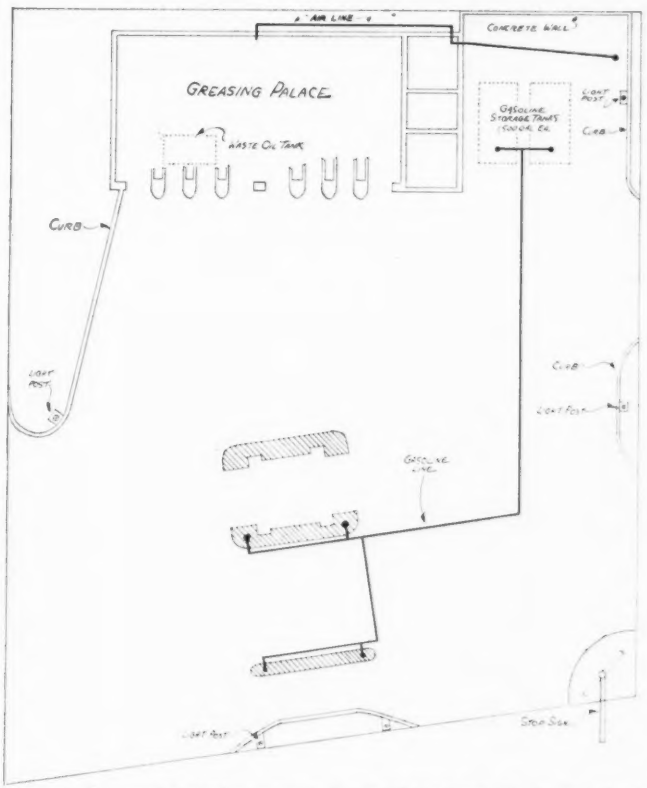
"Accessibility," they chorused.

Accessibility, they explained, was the first and chief thought that came into their minds in making a station layout and often in passing on the feasibility of buying or leasing a site.

"We must enable the customer to drive into the station, get service and get out again without backing or other inconvenience," Mr. Smith added. "We may get a customer into the station once, but if he has trouble in getting out, he won't soon forget that fact and won't return to buy."

The Pocahontas company in beginning a building operation has its architect's engineers make a drawing to scale of the lot. The drawing must show every tree, light post or public utility poles around the lot, and any sewers, water or gas mains, or conduits that may cross it. At 10-foot intervals the elevation of the lot is taken, so that the architect's estimator will know almost to the cubic foot how much excavating or filling will be needed to put in the buildings, tanks, pipe lines and to increase the accessibility by making the lot as level as possible yet with good drainage for the drives.

The drawing usually is scaled ¼ inch to 1 foot. Heavy paper or cardboard service station and greasing house and even automobiles are cut to the same scale. Then comes the task or game of placing the buildings on the lot. The cards that represent the builds are placed in what seems to be the most logical positions on the drawing. The cardboard automobiles are then maneuvered through the drives past the station and pump island, in and out of the greasing house, around the air and water towers, and everywhere about the lot where a customer would likely go when seeking one or another of the services offered. The buildings also are shuffled about until Pocahontas officials attain what they believe is the best layout possible. The positions of the buildings then are traced on the preliminary drawing and the architect is ready to proceed with detailed plans.

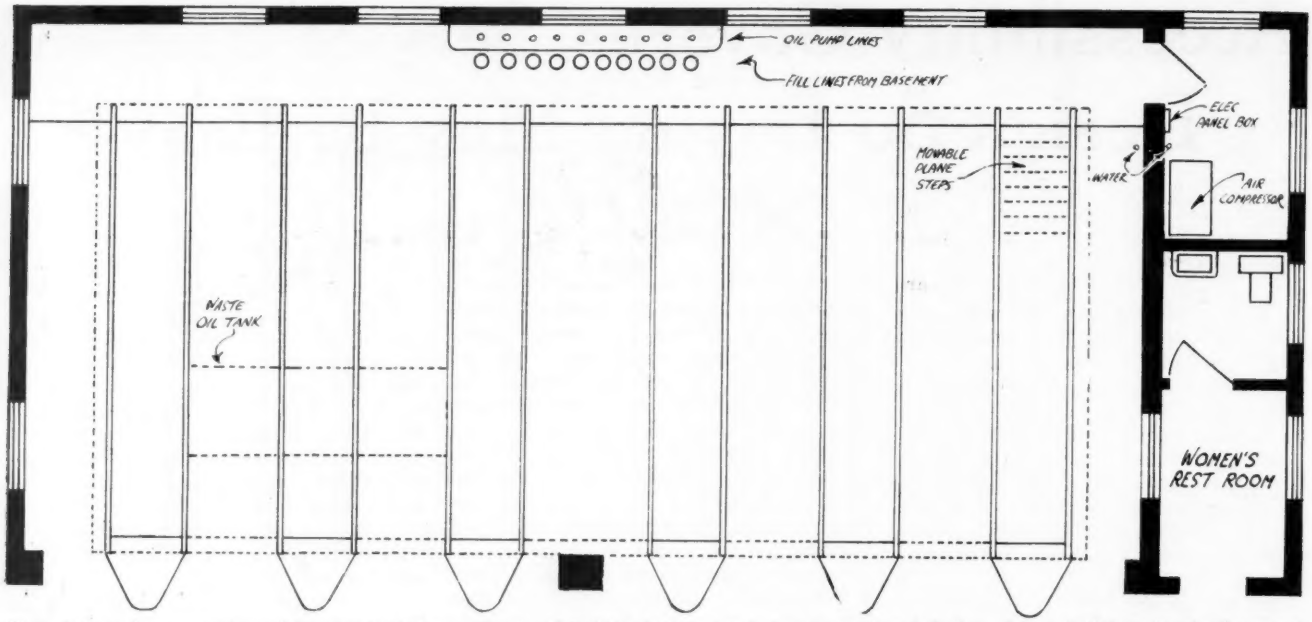


Layout of a service station grounds by Pocahontas Oil Co. in Cleveland. Lot is approximately 97 by 115 feet. Station has four meter dispensers and six-pit grease palace. Layout is such that both gasoline and grease palace customers may enter or leave without inconvenience

The company whenever possible builds its stations with canopies over at least one drive but occasionally some attractive business locations were irregular lots and it has been necessary to omit canopies.

Sometimes the size and shape of a very desirable lot are such that placing of pump islands is a difficult problem. These islands then are placed where the pumps will be convenient for a car and not in any set conventional position in relation to the station building.

With rare exceptions a car must back out of greasing houses but it is the aim of Pocahontas officials to make only one backing necessary. Air and water towers are placed so a car using that service, will not



Floor design of grease palace of Pocahontas Oil Co., Cleveland. Building is25 feet 9 inches by 56 feet 9 inches. Large dotted rectangle shows outline of large open pits. Small dotted rectangle is location of waste oil tank which is buried beneath cellar floor

interfere with gasoline and oil customers. Water also is supplied from the usual cans at the gasoline pumps.

Lighting is an important feature in Pocahontas station designs.

"Good lighting," Mr. Smith said, "not only makes the station attractive at night but it is a good advertising feature."

Lamps are placed on poles so that every part of the station and drives are flooded with light but without glare. A flood lamp that will cast a glare in the motorist's eyes may cause an accident.

The number of pumps, while estimated to meet the expected traffic through the station, sometimes is governed by the layout of the station. Accessibility is never sacrificed for quantity of outlets, Mr. Smith said. All pumps must be convenient. Fast serving dispensers have been used in all of the later. Pocahontas stations because of speed in filling customers' tanks will overcome the lack of two or three slower acting dispensers in a day.

DRIVES are covered with 5 or 6 inches of cinders and then covered with crushed stone, slag or concrete. Concrete drives are laid 6 inches over the cinders and in cases where they are laid over a deep excavation as the cellar of a house that has been razed for the station the depth is 7 inches. The company's engineers expect this thickness to stand up under any present day traffic at the slow speed necessary in a service station.

Building codes and traffic regulations must be observed in laying out a station. In most cities drives cannot be placed where cars going into or emerging from a station will interfere with the flow of traffic in important intersections. At all corners in Cleveland the edge of a drive must be not less than 6 feet from the inner edge of the sidewalk of the street the drive parallels. That leaves a place in which pedestrians may stand when waiting to get right of way to cross the street.

AN ACCOMPANYING diagram shows the layout of a Pocahontas station that was built this year. This lot was commodious 97 x 115 feet and the chief difficulty was traffic. The station fronts on a heavily traveled street which also has car tracks. The side street is only 22 feet from curb to curb. The greasing house with six pits was placed on the rear of the lot as were the air towers. Two gasoline tanks were buried at the rear just inside the property line along the side street. The placement of the tanks enables trucks to deliver gasoline easily without interfering in any way with customer traffic from either the main street or the side street.

The greasing house, 25 feet 9 inches x 56 feet 9 inches, is the result of several years' experience of Pocahontas with enclosed structures for this service. The pits are all open below so one man can get from one to any other of the six cars that may be getting an oiling and greasing at one time, without having to go to the ground level. Portable stairs that hook into the walls at either end of any of the six pits, are used for going into or out of the pits.

Grease guns, grease and all supply tools needed below the ground level are kept in the pits. Oil tanks are also recessed at the rear of the center of the pit but the pumps from which the oil is drawn are on the ground level, available to the man that fills the crankcases.

Air guns are used for greasing and a compressor is placed in a small room at the right rear corner of the building. Reserve supplies also are kept in that room. In front of it is a rest and waiting room for women. A woman may drive her car to the station and wait in a comfortabe chair or shop at a nearby market while her car is being serviced. If she remains at the station she may watch the job through a window.

The accompanying sketch of the large gasoline and oiling station of the Producers Oil, Inc., at Indianapolis, while not to scale, gives an idea of what may be done with a triangular lot. This property fronts 230 feet on a diagonal street and 180 feet on a side street along which 10 meter dispensers have been paced on five islands. Each dispenser has two outlets, giving the station 20 gasoline outlets.

FROM the point where the two streets converge, the diagonal street declines to pass under a railroad. That made impossible the placing of a driveway at that corner because a grade would have been necessary and the columns that support the railroad would interfere and make traffic hazardous at that point. But near the point a drive has been cut wide enough to permit cars to enter or leave the station readily and to maneuver easily around the islands. Cars may also swing from the pumps to any of the nine greasing pits that are housed in a structure along the blind leg of the triangle.

Air and water towers at the Producers station are along the diagonal street and curbs have been set to make it necessary for a car to head into the towers, thus permitting more cars to be serviced than if the cars were permitted to stand parallel to the row of towers.

In the sketch the three 20,000-gallon gasoline tanks of this bulk storage station are buried in the center

of the triangle as indicated by the dotted rectangles. In the lower right hand corner is the position of the railroad spur which holds eight tank cars, and some vacant space at present used for barrel storage.

The central area of this station is covered with crushed stone but the drives around the pump islands where traffic is heavy, are concreted.

The grease pits at this station are all open beneath so the pit man may go from one car to another without any climbing.

Electric controls for some gasoline dispensing systems are usually placed on panes enclosed in wall boxes that open outside the station buildings. At greasing pits where only oil and grease are exposed, electric controls may be placed anywhere that is convenient.

The same care that is being used by many companies in placing greasing houses, is being used in the locating of greasing racks, whether they are of the stationary kind or the elevator type.

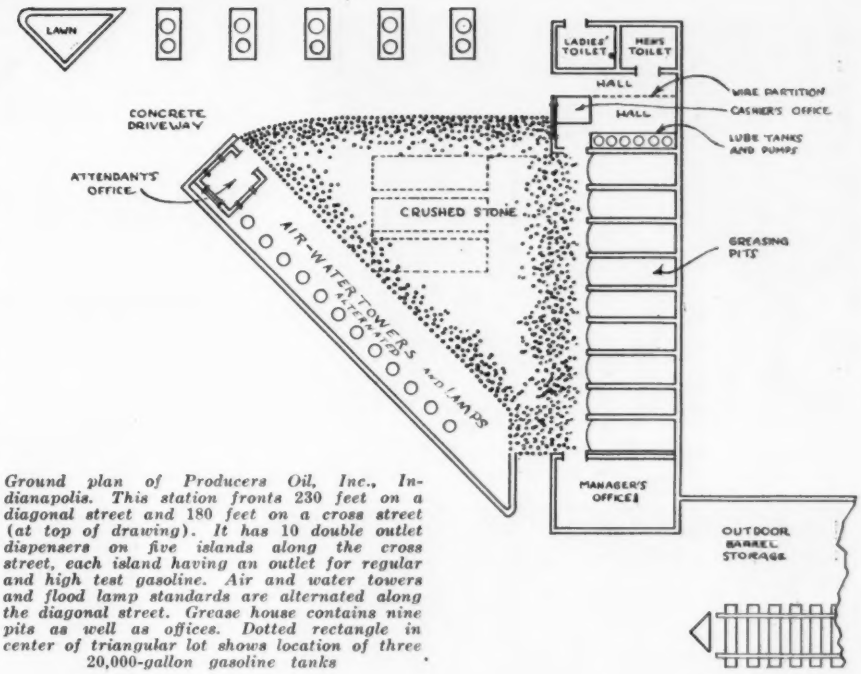
Convenience again is the main idea modern service station designers keep before them in planning the station building. Of course, most companies now seek to make their stations attractive. Beauty is gaining importance in business rapidly and a pretty station especially in a residential district is not a bad advertisement. It gets the favorable attention of the buyer and that is the first principle of advertising.

Station windows are now being designed not only for their primary purpose to admit light to the sales room, but as a place to display goods for sale. The stations that handle automobile supplies, can have no better medium to impress upon the mind of the motorist than a neatly trimmed window with a display of some of the articles for sale at that station.

When a prospective customer can visualize the articles he can purchase there, he is less likely to forget where to buy than if he were only told by the pump man that such-and-such a necessity as a lamp bulb was obtainable there.

Service station engineers and designers are studying the habits and psychology of the buying public and they are becoming able assistants in merchandising. They are making possible the application of that fundamental of merchandising:

"Make it easy to buy."

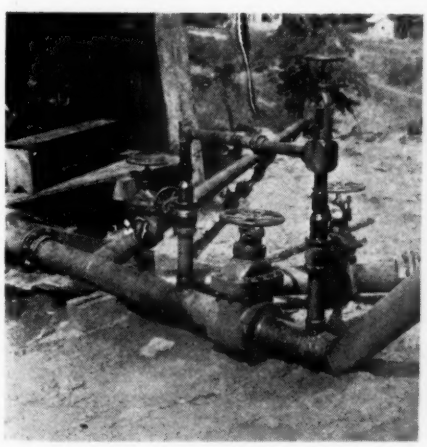


Ground plan of Producers Oil, Inc., Indianapolis. This station fronts 230 feet on a diagonal street and 180 feet on a cross street (at top of drawing). It has 10 double outlet dispensers on five islands along the cross street, each island having an outlet for regular and high test gasoline. Air and water towers and flood lamp standards are alternated along the diagonal street. Grease house contains nine pits as well as offices. Dotted rectangle in center of triangular lot shows location of three 20,000-gallon gasoline tanks

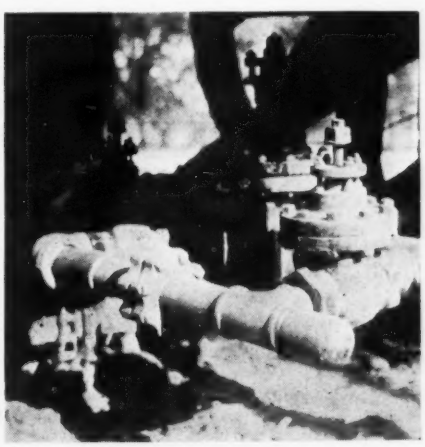
Methods Used in Pinching Wells at Little River

TULSA:— Here's a picture that proves they could have pinched in the Little River wells, whether they actually did or not. It shows the flow line hook-up on one of the Blackwell Oil & Gas Co.'s wells in the Seminole district's newest field. At right end of by-pass may be seen the Shaffer Adjustable Flow Bean, through which pressure and rate of flow are regulated. The flow-line branches in three directions, so as to be able to take care of excess oil. The inclined line on right leads to the gas-oil separator.

The Shaffer bean has an advantage over an ordinary flow-nipple in that its opening may be regulated and it is not necessary to replace it when a different sized opening is desired. It has a tapered orifice with an adjustable needle valve regulated by the hand wheel on top. Along the stem is a gauge showing number of turns the device is open and data furnished with the instrument gives diameter of opening for each half-turn of the wheel.



Blackwell Oil & Gas Co. flow-line hook-up, Little River field, Okla., showing Shaffer adjustable flow bean in place. N. P. N. staff Photo.



Flow line connections in Little River field, showing by-pass with bean for reducing flow. This type must be replaced by another when a different sized opening is desired. N. P. N. Staff Photo.

Canadian Oil Society Meets Oct. 28

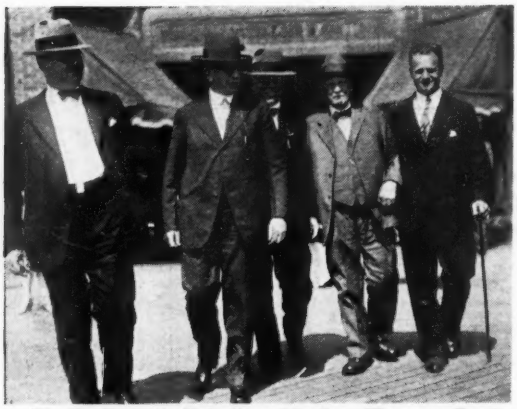
CLEVELAND, Sept. 26.—Annual meeting of the Natural Gas and Petroleum Association of Canada will be held at the Prince Edward hotel, Windsor, Ont., Oct. 28, S. A. Morse, secretary-treasurer, has announced. The meeting will begin at 9 o'clock a.m. In the afternoon several papers will be read and there will be round table discussion of several practical problems of the industry. The principal speaker at the banquet will be Strickland Gilliland, humorist.

LOS ANGELES—L. K. Coughlan, American oil well driller, has returned to his home in California after spending three years in the Barneo oil fields in the employ of the Dutch Shell interests.

N. P. A. Silver

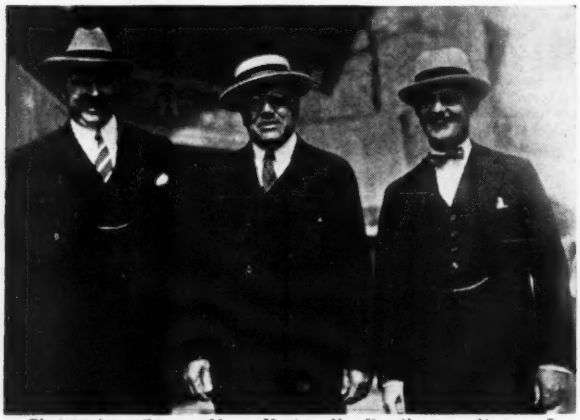
Refiners of the National Petroleum

Snapped on the Boardwalk at At



W. F. Bennett Valvoline Oil Co., Warren; E. C. Gardner, Seneca Oil Works, Warren; E. W. Smiley, Superior Oil Works, Warren; A. D. Confer, Empire Oil Works, Warren, and H. B. Fowler, American Car & Foundry Co., New York.

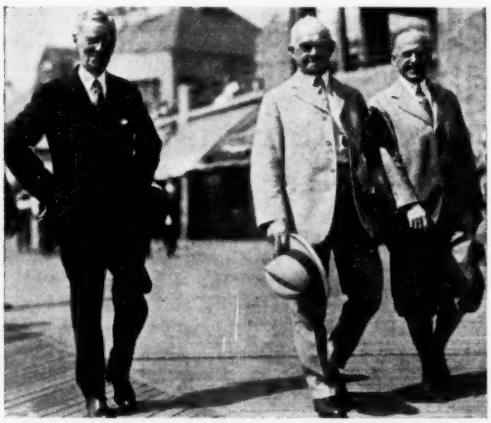
Percy Craig, Pennsylvania Oil Products Refining Co., E. M. Craig, Pennsylvania Oil Products Refining Co., James Gilmore, secretary American Oil Men's Assn., Chicago, and Mr. Conley, Pratt & Cady Valve Co., New York.



Christopher Story, New York; F. R. Coates, Henry L. Doherty & Co., New York, and Frank C. Hart, Hartol Products Corp., New York.

Richard Airey, Asiatic Petroleum Co., New York.

R. G. Browne, Great Western Oil Co., Cleveland.



Edward J. Hasse, Crew Levick Co., Philadelphia; Wm. Muir, Bradford, former president of the National Petroleum Assn., and H. R. Burting, Crew Levick Co., Philadelphia.

A. H. Sherwood, Wilson Snyder Mfg. Co., New York; S. D. Tibbets, Warr Penn Refining Co., Warren, and Max Miller, New York.

J. D. Berry, James B. Berry & Sons, Oil City, and Mrs. Berry.

Sam Messer, Independent Refining Co., Oil City, and J. V. Frampton, Oil City.

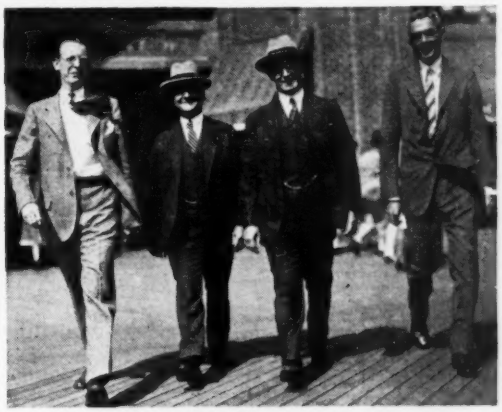
Anniversary

Association and their Guests

lantic City, Sept. 14, 15, 16.

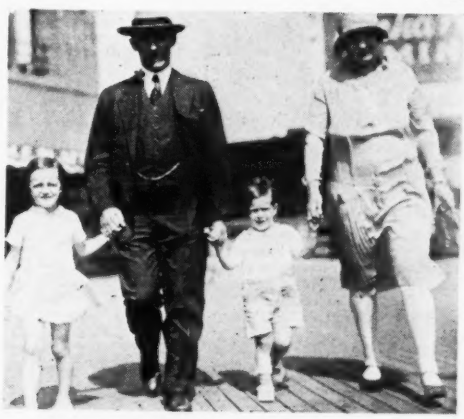
H. H. Willock, Pittsburgh, former active member of the association; J. A. Jackson, Canfield Oil Co., Cleveland; Louis Carruth, Canfield Oil Co., Cleveland; and Charles M. McLean, Canfield Oil Co., Cleveland.

M. Irelan, Crew Levick Co., Philadelphia; J. C. Willing, Crew Levick Co., Cleveland; C. E. Foster Crew Levick Co., Philadelphia, and H. R. Burting, Crew Levick Co., Philadelphia.

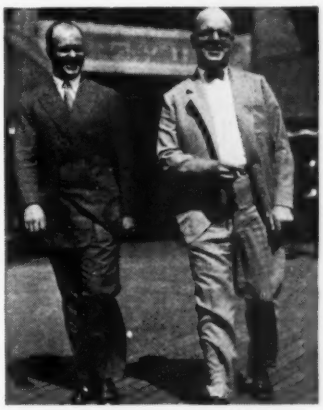


H. K. Schmidt, F. G. Bannerot, H. A. Logan and MacLean Houston, all of the United Refining Co., Warren.

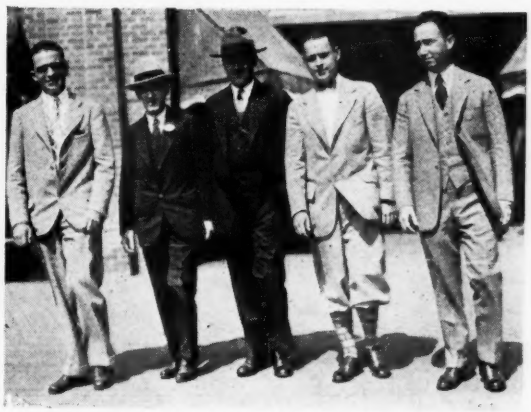
J. J. Smith and J. F. Baer, Reliant Oil Co., New York.



Mr. and Mrs. H. A. Logan, Warren, and their children, Marian and Harry Jr.



R. P. Byles, Byles Widler, Oil City, and L. C. Jamieson, Viking Oil Corp., Clarendon.

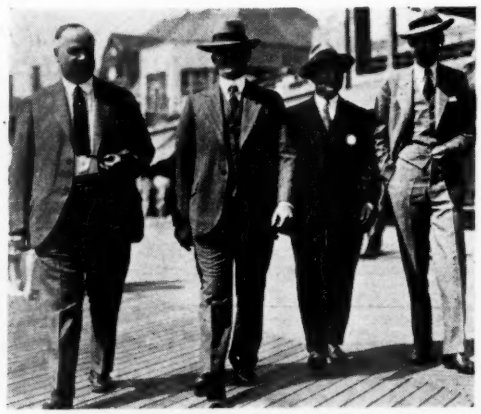


G. G. Brockway, Warren; L. A. Tarbox, H. S. Bell, New York; O. B. Opsion, A. D. Miller Sons Co., Pittsburgh; S. P. Worthington, Tiona Refining Co., Philadelphia; W. S. Williams, Asiatic Petroleum Co., New York.

B. W. Browne, Great Western Oil Co., Cleveland; Fred G. Clark, Fred G. Clark Co., Cleveland, and G. P. Brockway, Seneca Oil Works, Warren.

National Petroleum Association Silver Anniversary

George Suraud, Chelsea Oil Co.; J. A. McEwen, Swan & Finch; R. G. Sonneborn, W. H. Daugherty & Sons Co., Petrolia; and Julius Roten, Sonneborn & Sons.

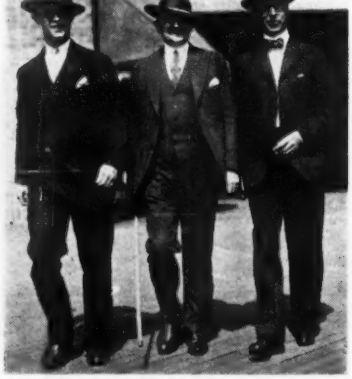


James Lewis, Bradford Oil Refining Co., Bradford; M. F. Cowden, Pennsylvania Oil Products Refining Co., Warren; H. W. Walchli, Tiona Refining Co., Clarendon, and R. E. E. Hood, Marland Refining Co., New York.

H. A. Ross, Warren, and Earl Petty, McKean County Refining Co., Bradford.

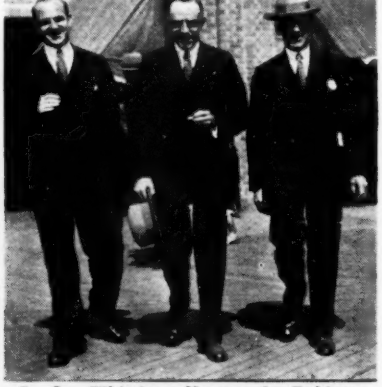
W. D. Todd, Warren, chairman of the first executive committee of the National Petroleum Association.

O. D. Robinson, Republic Oil Co., Pittsburgh, and T. R. Cowell, Transcontinental Oil Co.



W. R. Boyd, 3d; W. R. Boyd, Jr., American Petroleum Institute, New York, and Houston Dunn, National Petroleum Mutual Fire Insurance Co., Philadelphia.

G. D. Willock, George D. Willock Oil Co., Pittsburgh; Loftus Cuddy, and C. B. Dallam, Pittsburgh, one of the early members of the National Petroleum Assoc.



C. L. Whittier, Young & Rubicam, Philadelphia; R. J. Alexander, secretary Pennsylvania Grade Crude Oil Assn., and P. S. Tarbox, Independent Refining Co., Oil City.

Developments in Petroleum Manufacture

By T. G. Delbridge

Atlantic Refining Co.

Delivered Before National Petroleum Association, Atlantic City, Sept. 16

REGARDLESS of the line of products we manufacture, or the kind of crude petroleum we run, or how we market our output, we have one common aim—to operate at a profit. True it is that all too often this aim is temporarily forgotten by the operating force in an effort to meet a promised delivery date, to produce a special desired quality of product or to correct some temporarily embarrassing predicament.

As the first instance of refining improvements, I submit the growing tendency on the part of operators to subordinate other considerations to the basic purpose of profitable operation. There is still room for great advance along this line, but that which is the paramount issue in the minds of you who are owners and managers can, by judicious supervision, explanation and perseverance, be indelibly impressed upon your subordinates down to the most humble employee.

These present adverse times cannot fail to lend emphasis to the prime importance of intelligent action by every man on the payroll. The human factor can be greatly assisted and augmented by mechanical device—it can never be displaced. It is the greatest single factor in refining operations; it has been improved; it can be improved further and the effort expended in that direction is likely to give large and quick returns.

We have a second universally common interest in that we all operate on raw materials which misses no opportunity to disappear through evaporation.

Evaporation losses from gasoline and naphthas are even more readily encountered, since it is this very property which gives these products their high place in commerce. We have always had evaporation, we have always known about it in a way. As the second instance of improved refinery practice, I cite the various methods of reducing and even substantially preventing evaporation. The manufacturers of equipment have covered the field so well that no elaboration is required. Post-card inquiries will bring you reams of literature showing that the elusive naphtha vapor cannot get away from you if you use a floating roof, or it may be an insulated deck, or pressure storage, or breather balloons, or other device. All these have merit; which one is best for you depends upon your individual needs and possibly on your pocket-book. Even small leaks in roof seams of naphtha tanks are important and should be caulked with a suitable plastic compound not acted on by naphtha. Apparently tight seams frequently show leaks when tested with soap solution.

Before leaving this subject it seems wise to remind you that evaporation losses are serious not only in storage but particularly in the movement of crude petroleum and its more volatile products. Working tanks, pumped or flowed frequently should not be overlooked. Out of the immense volume of data now in print on the subject, one fact is well worth remembering: 1000 cubic feet of gasoline saturated air at 90° F. contains 15 gallons of the most valuable part of the gasoline. At 15 cents a gallon this means $2.25 per 1000 cubic feet. Compare this $2.25 with the price of 1000 cubic feet of manufactured gas! Remembering that a cube 10 feet by 10 feet by 10 feet holds 1000 cubic feet and that a 10,000 gallon tank car contains over 1300 cubic feet, it is easy to understand how profits evaporate.

Speaking of tank cars, gasoline loading operations should be carefully reviewed by each of you. I realize that you all know how to load, but my question is "Do you do it that way?" Some months ago, a refinery somewhere in Pennsylvania was found to be loading motor gasoline with an overhead line ending in the dome. The extension lines for loading lay unused on the rack. The loss per 10,000 gallon car loaded at 95° F. was 24 gallons. By installing a permanent counterweighted loading line ending in a tee that could rest on the bottom of car, this loss was reduced to 5 gallons per car. Passing on to processing operations, your attention is called to an approximate general manufacturing expense distribution, in percentages, namely:

Fuel, Stills and Boilers	40
Process Labor	20
Maintenance	15
Chemicals, Clay, etc.	15
Sundry	10
	100

Costs in different refineries will vary somewhat from these figures depending on kind of crude, nature of end products, size of plant and efficiency of operation. Except in very abnormal cases the figures given are believed to convey a correct idea of the average present manufacturing expense. They portray in striking manner the overshadowing importance of fuel costs. Your association, during the last two years, has wisely devoted much attention to the matter and you are or should be well informed as to improved methods of utilization and, therefore, conservation of fuel.

Still fuel efficiencies of 30-35% are not so far in the past that they seem strange. The standard for today is 65-70% with more than a hope of reaching 75%, now standard for boiler practice in the refinery. Such improvement is due mainly to the design of furnace and of heated surface, to increasing utilization of radiant heat, to heat exchangers and economizers, to the adoption of continuous processing and to constant control of combustion. The last factor is increasingly important. Fortunately instrument makers are at our service with reliable indicating and recording meters for temperature, pressure, volume, CO_2 etc.

Ignorance of furnace and still conditions is no longer an adequate excuse for poor firing. We in this part of the country have not failed to take advantage of coal as fuel. Under ordinary conditions, coal, hand-fired, is ultimately more expensive than low grade fuel oil. The use of suitable stokers properly installed and operated has in general reversed that condition. The use of pulverized coal, now firmly established in other industries, is just beginning to find its place in the refinery. One of the Eastern companies has recently made four installations of powdered coal on pipe stills. Preliminary results are promising and there is abundant reason to believe this method of heating will become popular, not only because of its easy control, but also because the change from coal to oil or gas can be made practically instantaneously.

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THE better use of radiant heat may well be considered a distinct advance in petroleum distillation. Not so long ago the rate of heat input through the still bottom was only 6000 B.T.U. per sq. ft. per hour. Today 25,000-30,000 is a rate not uncommon in pipe-still practice. Excellent results have been obtained by more or less completely surrounding the source of radiant heat with tubes. This principle is applied in a unique and novel manner in two stills now in course of construction. The results are expected to have a profound effect on future heater design.

Another instance of improvement is in heat insulation. Heat, like gasoline vapor, misses no opportunity to migrate and disappear without contributing its share to that profit which we want and must have. Excellent heat insulating materials are now manufactured specifically for our industry. Any manufacturer of these

materials will gladly tell you how much you can save by installing the right kind—his kind—of insulation. He is almost certain to be right but—insulation, like heat and like gasoline vapor, is prone to wander from its proper place, unless applied with unusual care and maintained with very unusual diligence and vigilance. If you have any doubt as to the accuracy of the words "very unusual", an inspection of insulation in your own refinery is prescribed. The results from this prescription are usually beneficial, except in fatal cases due to shock at seeing the actual condition.

INSULATION to retain cold is even more important than that to retain heat. It costs twice as much to make ice as it does to make the same weight of steam. Perhaps the outstanding recent development in wax distillate pressing is the realization that effective insulation is always profitable and often indispensable to satisfactory operating results.

The second largest item in refinery manufacturing expense is labor. Refining methods are dependent on both quality and quantity of labor as on no other single factor. It is not surprising, therefore, that the proper utilization of labor is receiving intensive study and with resulting improvement in refinery operation. Piece rates, the group bonus and similar systems, when soundly conceived and equitably administered, are rapidly increasing in popularity, with men as well as management. The interest and enthusiasm of process operators is being stimulated in many ways. While time will not permit further comment, this subject is urgently recommended for your careful consideration.

Distillation, as the most important process in petroleum refining, has been studied and developed to a high degree of efficiency the last three years. The three outstanding features of development are continuous coil heaters, fractionating columns and the application of vacuum.

Among the advantages of the up-to-date pipe still are the following:

Saving of rerunning: Whereas in 1923 the average complete lubricating refinery actually charged into stills about 2.7 bbls. for every bbl. of crude run, with the pipe still this is cut to 1.5 bbls. or even less.

Saving in fuel: The fuel required for the crude distillation alone is about 65% of that used for corresponding batch distillation in shell stills. Savings in steam are of about the same order of magnitude.

Complete recovery of the more valuable products, conspicuously gasoline: A modern bubble tower properly operated gets all the gasoline existing as such in the crude. Similarly lubricating oil yields may be increased by 50 to 100% on the finished oil basis, depending on kind of crude and former method of running. It should be noted that the quality of high boiling products from the pipe-still is appreciably better on account of the short exposure to high temperature. This is reflected in subsequent refining operations. It is possible to go to lower bottoms than can be done in batch shell still practice. Runs of Mid-Continent type crude to 8% bottoms are common.

Reductions in labor, in ground space, in fire hazard are other advantages of pipe-stills. In one refinery operating labor and ground space covered are only 25% of the corresponding shell still figures.

The use of high vacuum stills is increasing. By high vacuum is meant absolute pressure less than 10 MM. or a half inch of mercury. While a number of installations of the batch shell type vacuum still are operating successfully, it is highly probable that these cannot compete with a continuous still preferably of the coil type. While most vacuum distillation has been carried out heretofore on the relatively low boiling naphthenic crudes, nevertheless this method has a real application to some products from paraffin base crude, even Pennsylvania. The advantages of high vacuum distillation are usually given as larger yield and better quality of product, but it is reasonably certain that direct and indirect fuel savings are equally important. Rapid development of vacuum distillation is predicted.

IMPROVEMENTS in cracking have taken place along several lines; increased thruput of stock and increased output of gasoline per unit by better utilization of heat and increased heating surface is a major improvement on the heat pressure systems as is the greater flexibility as regards charging stock. The use of aluminum chloride for cracking now appears to be commercially successful and important. Vapor phase cracking is no longer experimental. Several plants using this method are in operation and others are in course of construction. In view of the immediate importance of the detonation characteristics of gasoline, vapor phase cracking would seem destined to hold an important place.

Since gas production of the refinery is increased by cracking, particularly at low pressure or in vapor phase, the problem of utilizing this gas is receiving study in many quarters. While commercial solvents such as alcohols, ketones and esters are now being produced from refinery gas in small yield, there is reason to believe that complete conversion of this gas into motor fuel is not impossible.

The use of fine clay or fuller's earth for decolorizing is another development that has a real place in most refineries. This so-called contact process, in my opinion, will supplement percolation through clay but will not displace it. The advantages of contacting with fine clay appear to be very marked over acid treatment of distillate lubricating stock. A light acid treatment of such stock followed by fine clay gives decidedly more finished oil, the increased yield representing about 95% of the increased profit over acid treatment alone. In this connection, it should be remembered that, as the demand for fine clay increases, its price will increase and approach that of 30/60 mesh earth. Its recovery and re-use will then present another refining problem.

Mention is made of the increasing use of clay burning equipment of the Herreschoff and Wedge type. Its popularity is justified, because the regenerated clay has a decidedly longer life than that burned by the conventional rotary kiln and at least some of the gravity flow type.

The Edelanea method of refining by extraction with liquid sulphur dioxide is widely used on the Pacific Coast. Kerosene so prepared from California crude is competitive in quality with the best made from Pennsylvania or West Virginia crude. The use of the liquid sulphur dioxide process in Eastern refineries has not been imperative, and, therefore, the high initial cost of the installation and the considerable royalty have reacted against it. Its merit, however, is undoubted and wider use is to be expected.

The subject of centrifugal dewaxing is too well known to all of you to require more than reference and the statement that its application has been broadened and improved.

Other improvements now available to the refiner are vapor phase treatment of gasoline with fuller's earth, various methods of sweetening, of sulphuric acid regeneration and of recovery of gasoline from refinery gases.

From the mechanical viewpoint, we note many worth while advances among which are use of the Diesel motor; improved steam and electrically operated pumps including those for hot oil; larger forged reaction chambers for cracking; alloys for special purposes; measuring instruments; automatic controllers for temperature, pressure, liquid level, etc.; sampling devices; paints and other protective coatings; refractories and heat insulation.

PERHAPS the most serious problem confronting refiners today is that of corrosion. Even those of you who have suffered but little in the past will become vitally interested as crude becomes more corrosive through increase of chlorides or sulphur content. Cracking and pipe still operations make the matter still more important because the indirect cost of interrupted use of the apparatus is quite as serious as the cost of repairs and replacements. The remedies for corrosion troubles can come only from research—if that overworked word is permissible.

Outline of Developments on Colombia Concession of Tropical Oil Co.

By A. M. McQueen*

THE Republic of Colombia forms the northwest corner of South America, and is connected through the Isthmus of Panama with Mexico and North America. The country, as a whole, is composed largely of mountains; the Andes, which form the backbone of South America, divides near its southern border to form three different series of ranges, the Eastern, Western and Central Andes. These high rugged ranges, make travel and transportation in an east-west direction difficult and expensive, and this lack of communication has greatly hampered the development of the country.

The main artery of communication is the Magdalena river which is navigable for 800 miles or more; its mouth however, is closed by a great sandbar so that incoming cargo must be unloaded at Cartagena or Barranquilla and transported by railroad to the river.

Almost the whole of Colombia lies between the equator and latitude 10 degrees north, and the climate is dependent largely upon altitude. The lowlands have a typical tropical climate and except in the coastal area east of Barranquilla are covered with dense vegetation. The concession operated by the Tropical Oil company is situated about 360 miles inland from the coast, a few miles east of the river port of Barranca-Bermeja.

The altitude at Barranca and the neighboring country runs from 400 to 600 feet above sea level, and the climate is consequently tropical. The rainy seasons are fairly well defined and occur from October to mid-December, and from mid-April to mid-June. The rain fall is heavy, averaging 100 inches a year.

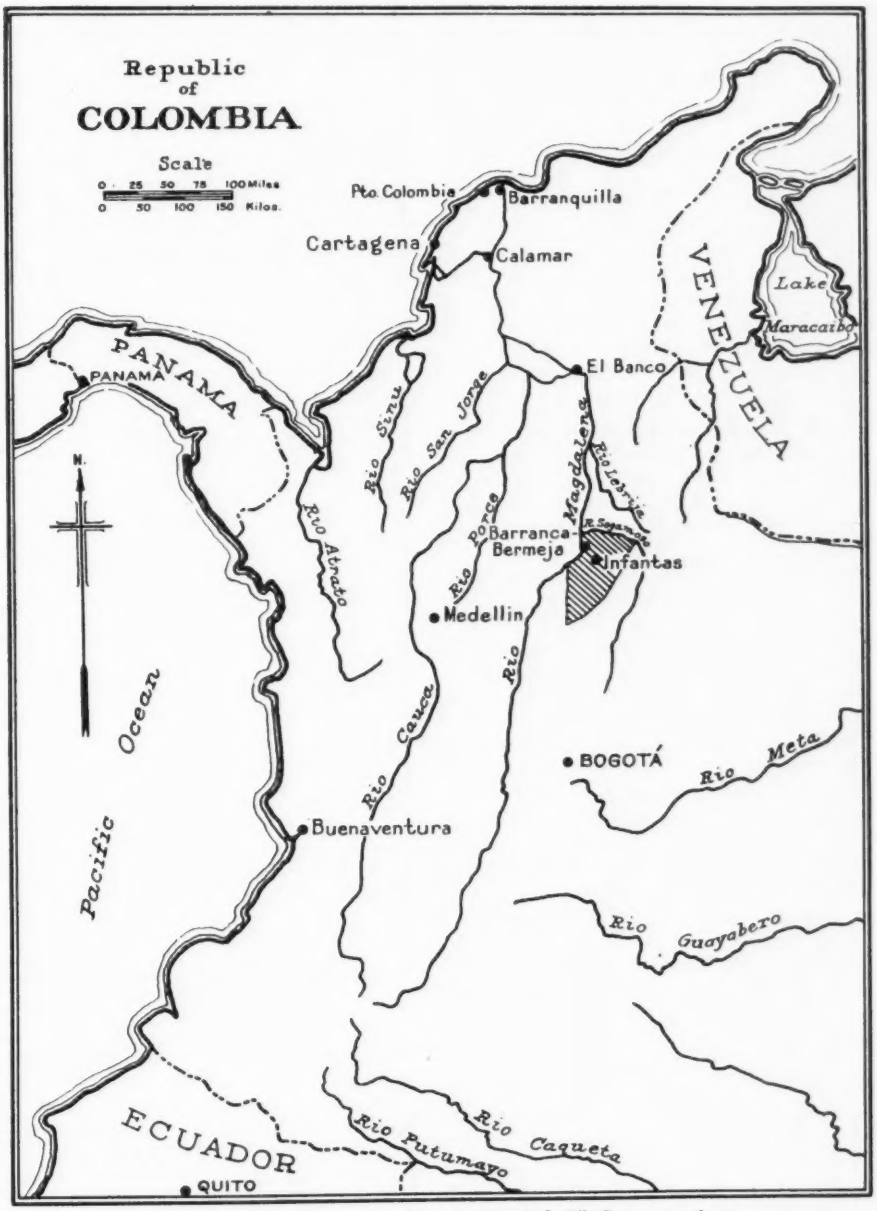
Up to 1922, Colombia was an importer of petroleum but today the output of the local fields is far in excess of the country's needs as evidenced by the following figures.

1920	Imported	....	63,790 bbls.
1921	Produced	....	66,480 bbls.
1922	Produced	....	323,598 bbls.
1923	Produced	....	424,876 bbls.
1924	Produced	....	444,743 bbls.
1925	Produced	....	1,006,707 bbls.
1926	Produced	....	6,443,540 bbls.

IT IS seen that the discovery of oil is a comparatively recent development, dating from 1918, when the Tropical Oil company brought in its first well on the De Mares concession. This concession embraces an area of approximately 1,319,344 acres (2061 square miles), and has a length north and south of 72 miles, stretching along the Magdalena and Carare rivers, and an average width of 30 miles. El Centro, the main camp, lies approximately 17 miles southeast of Barranca-Bermeja which is on the River Magdalena, 354 miles by boat from Barranquilla.

The concession was granted to Mr. Roberto de Mares in 1905 by the Colombian government, and in 1916 the Tropical Oil company was formed for the purpose of exploring the property. In 1917 and 1918 three producing wells were drilled, with encouraging results. In 1920 the International Petroleum Company Ltd. by an exchange of stock, took over the Tropical Oil company and since then development has been rapid and successful.

The development of an oil property in the interior of Colombia is beset with many physical problems not commonly found in North America. In the first place there is the difficulty of moving large quantities of field material up a shallow tropical



Map of Colombia, S. A., showing Tropical Oil Co. concessions

*Vice president, Imperial Oil, Ltd.

river, where in certain sections navigation is rendered difficult by the ever shifting sand bars, especially in the dry seasons when the water level is at its lowest.

From the company's unloading point at Barranca-Bermeja to the main camp in the field is approximately 17 miles (28 kilometers). In its preliminary operations the Tropical Oil company resorted to canoe transportation for the movement of several hundred tons of material to the Infantas field, but this was replaced by a wagon road and a large fleet of trucks and caterpillar tractors; this method of transportation has in turn been supplemented by a one meter gauge railroad, though the road is still maintained in constant use. The rolling stock consists of two steam locomotives, one 40 ton and one 25 ton, burning fuel oil, and two gasoline locomotives; 10 ton box cars, 10 and 20 ton flat cars, refrigerator cars, tank cars and passenger cars.

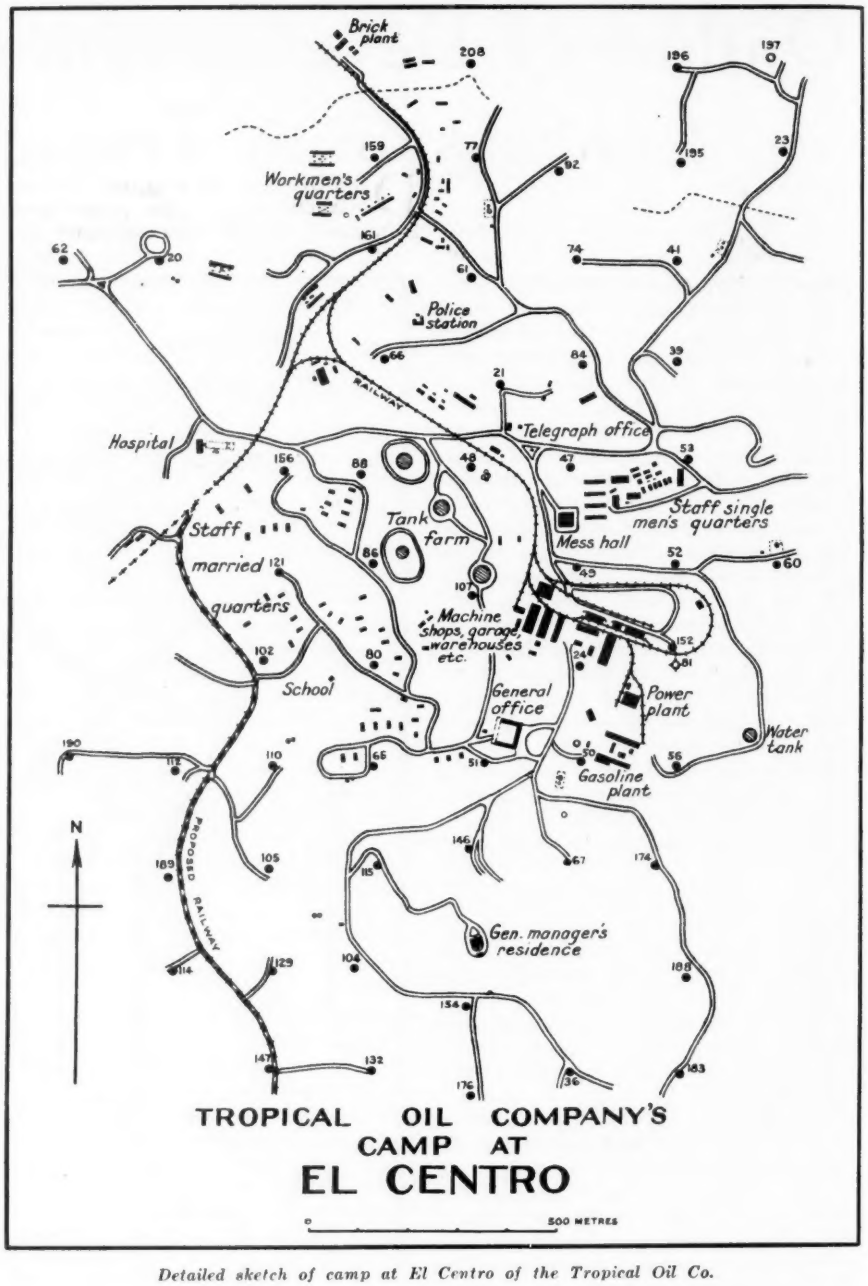
OWING to the heavy rain season already mentioned, proper drainage of the road bed at all times necessitates fairly high embankments. Permanent water openings, using corrugated iron culverts and concrete bridges, are required; no timber construction being feasible on account of the decay of such structures from the attack of white ants. For railroad ties, principally Punte and Comino hardwood have been used; these were laid in 1923 and 1924 and so far seem to have resisted insect attacks fairly well. A metre gauge steam shovel takes care of slides and necessary repair work caused by the rain.

The surface conditions of the greater part of the concession being exceedingly rough and hilly, it has been found necessary to build a system of roads to reach all drilling locations. Main roads run principally north and south with laterals where required. As in the case of the railroad, the heavy rainfall requires a special design of roads. It has been found that roads built on rolling grades of from three to five per cent with a 20-inch crown and a road bed width of 26 feet are the most economical to maintain.

No road metalling or gravelling has been done but the roads are kept well crowned and oiled. This practice has proved satisfactory on the majority of the roads where the surface is a red sandy clay, which absorbs the road oil well. Trouble during the rainy season is met with, where the surface is almost a pure clay that will not take the road oil in any quantity.

Timber construction of bridges has been abandoned, and spans of I-beams on concrete substructures are built over creeks where culverts cannot be used.

Owing to the heavy nature of the tropical vegetation, in staking out a road, a space 100 meters wide has to be cleared of all trees and undergrowth. This space must be kept constantly clear making the cost of road maintenance correspondingly high. It may be, that to anyone who is not familiar with tropical vegetation the question of clearing may not appear of paramount importance. It should be remembered that every road, well location, camp site, tank site, sub-pump station etc., requires the felling of all trees within 50 meters, and the clearing of the dense tropical undergrowth before grading can begin.



Detailed sketch of camp at El Centro of the Tropical Oil Co.

There are three main camps on the concession, at Barranca-Bermeja on the River Magdalena, at El Centro near the center of the drilling activities, and at Infantas the original field camp, situated at the southern end of the Infantas anticline on the Colorado river. At Barranca there is a 4,000 barrel refinery, construction shops, power plant, ice plant, tank farm, hospital and a school for children of members of the staff. Good roads have been built throughout this camp, and for the use of its staff the company has provided a club house with bowling alleys and billiard rooms, etc., with tennis courts, swimming pool and a baseball field adjacent.

THERE is a hospital at Barranca, taking care of both the workmen and the staff; in one year (1923-1924) the medical staff reduced the percentage of cases of hookworm among the workmen from 90 per cent to 25 per cent. The prevalence of hookworm was due largely to the habit of the natives of going barefoot. Since the Tropical Oil company has been operating in the country,

practically all of its employees have been taught to realize the importance of wearing shoes.

There are two schools, one at Barranca and one at El Centro, presided over by North American teachers; and at Barranca there is a resident chaplain, maintained at the joint expense of the company and the staff.

El Centro is a comparatively new camp situated in a central positon to take care of field developments. In time it is proposed that this camp will have its own club and recreation facilities as at Barranca. Infantas, the old main field camp, is now only occupied by such drillers as are working in that region.

In the early stages of development, native quarters consisted of pole shacks, thatched, with mud floors; after several years' experience the company's engineers in conjunction with the medical department, have designed a well ventilated sanitary house for workmen which is now used throughout the concession. These are wooden frame buildings with corrugated iron roofs, containing special ventilating features, fully screened with vestibule doors. Wooden buildings are usually elevated on concrete or brick pillars surrounded by an oil trough to protect them from attacks by white ants. All quarters are under the constant supervision of the sanitary department. The staff quarters are partly frame buildings and partly brick. The company operates its own brick yard plant which turns out a good quality brick, and a hollow tile. The policy eventually will be to construct all future permanent buildings and any replacements from this brick.

In addition to the main camps, there are two outlying staff camps and 18 workmen's camps. Each of these is in charge of a captain who is directly responsible to the town manager at El Centro for the discipline and cleanliness of the houses.

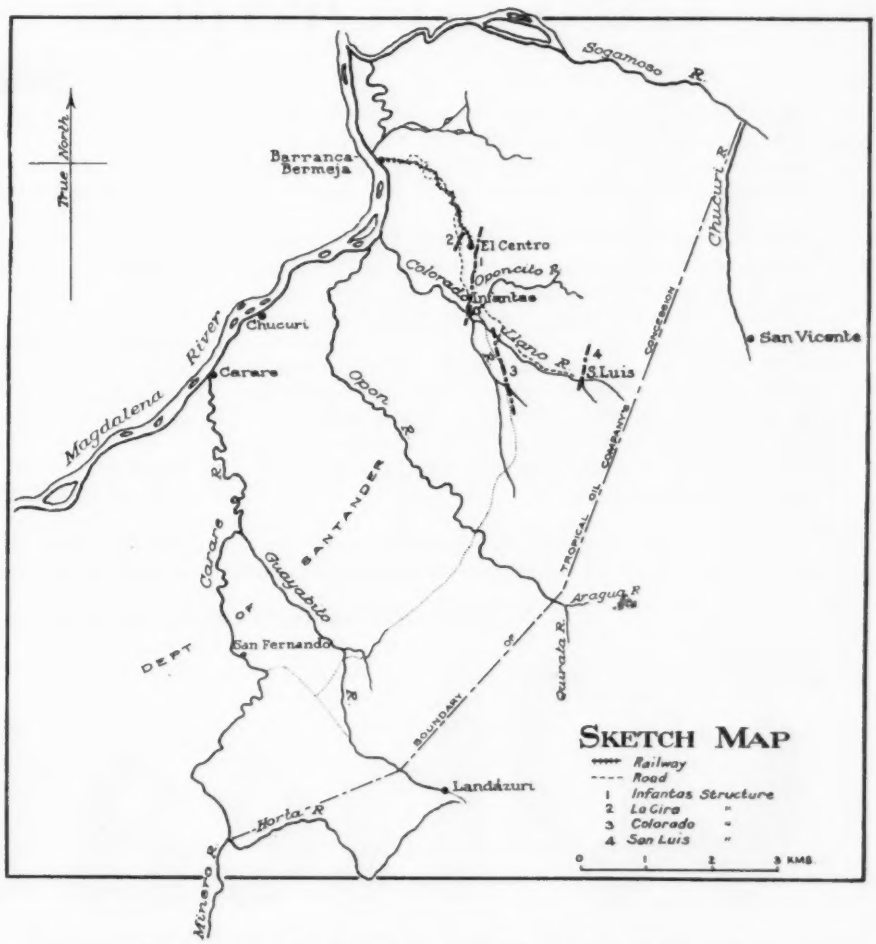
THE company maintains a restaurant at each of the three main camps for its foreign staff. Married employees purchase their requirements through the company's commissary department. In regard to the feeding of the workmen, kitchens have been built in all the camps. These are occupied by boarding house keepers who agree to furnish substantial meals to the workmen at a fixed rate. In order that the meals should be kept up to standard, where possible, competition among the boarding house keepers has been encouraged. Another vital factor in feeding the workmen is that the type of food consumed varies very much in different parts of Colombia, so that it is necessary to provide boarding houses capable of caring for men from all different parts.

Labor is recruited from all parts of the country but until the present has been largely of the transient type; it is hoped that with the improved accommodation and living conditions provided by the company that the payroll will present a more permanent appearance.

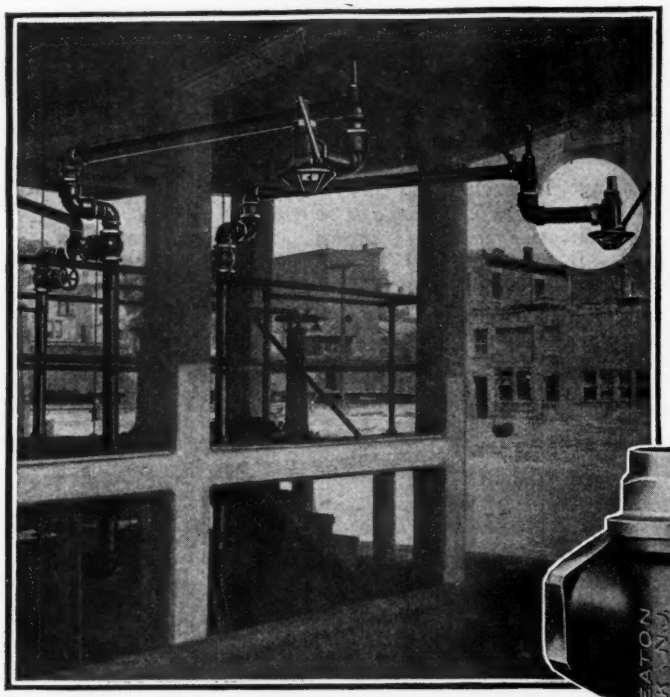
DRILLING is in progress on four structures on the concession, Infantas, La Cira, Colorado and San Luis. The location of these structures are seen on the accompanying map. The rotary system is almost entirely in use now, only a few cable tool outfits being retained for special work. A shallow sand on the La Cira structure is taken care of by Star drilling machines. Wells on the Infantas structure are completed at an average depth of 2100 feet. Experience gained during the past six years by the drilling and geological departments, has made it possible to predict with an exceptional degree of accuracy at what depth production can be expected, and with few exceptions wells are completed with one string of casing cemented on top of the sand, and a short liner protecting the producing formation; a packer is then set on 3-inch tubing and the well produced under back pressure through a bean. To date all wells producing are flowing; this is due in part to the company's policy since the commencement of operations, of conserving the gas energy in the formation as far as possible.

It is gratifying to note that today with a daily production of 50,000 barrels, the gas-oil ratio remains at the low figure of 600 cubic feet of gas per barrel. Steel derricks are used entirely, with Standard Rotary equipment; power is supplied by three boilers for the rotary wells, and one or two for the cable tool wells. Water for domestic and industrial purposes in the field is supplied from the Colorado river, the pumping station at Infantas comprising a battery of 66 horse power boilers and Giant Mud Hog pumps; this station is now being electrified, and settling and filtration tanks are being installed. For domestic purpose at El Centro and Infantas camps, all water for drinking at present is boiler distilled. At Barranca the water supply is taken care of by three water wells.

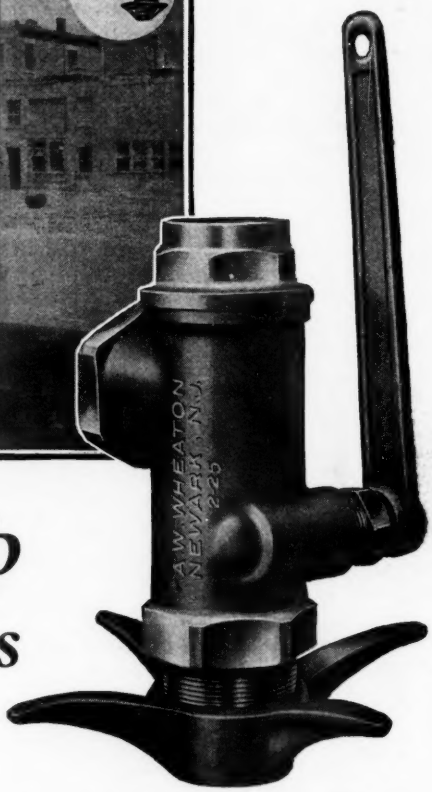
PRODUCING wells are grouped in stations, each station averaging six wells—at each station there are electrically driven pumps, obtaining their power from a central power station at El Centro. This power plant has a capacity of 4,000 kilowatts and consists of four 1250 K.V.A. at .80 power factor, 2300 volt, three phase, 60 cycle generators, directly connected to 1000 kilowatt, 3600 revo-



Above map shows main camps, structure, railroads, etc. on concession



The photograph at the left shows an installation of Wheaton Type 25 Loading Valves—also, Wheaton Double Swing Joints.



Let this Installation *Stop* those *Leaks* and *Overflows*

APPROVED by scores of engineers, this simple, correct installation is saving gasoline—and money—for loading stations throughout the country.

The Wheaton Type 25 Loading Valve, especially designed for the effluent end of the line, *prevents* leaks and overflows. Moreover, its location is at the point of greatest convenience.

The valve is counterbalanced. This means *slow, smooth, easy* action—no jars or shocks to spring leaks in the pipe line. And it is *self-closing.* The valve must be *held* open by the operator, for the instant the handle is released the valve shuts *tight.*

Type 25 Loading Valve reflects the same enduring *quality*—the same painstaking regard for every detail—which distinguishes all Wheaton Faucets and Valves. It is made of a special-analysis brass alloy—tempered, toughened and tested to ensure long life.

It is equipped with a sturdy brass alloy spider, which prevents it from slipping into the tank and catching; this removes the danger of jerking joints loose should the truck move before the Valve is swung away.

Send for a sample of Type 25 Loading Valve—if it does not prove entirely satisfactory you may return it for full credit or refund. Also, ask for the illustrated Wheaton Catalog, which fully describes all Wheaton Products.

A. W. WHEATON BRASS WORKS, NEWARK, NEW JERSEY

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lutions per minute, single stage steam turbines, operating on 225 pounds steam pressure. Steam generating equipment comprises five nominal 500 horse power water tube boilers, 200 per cent overloading rating. (Three at present in service, two under construction.) This power station provides power for all field stations pumping oil to the storage tanks at El Centro.

The Andian National Co. operating the pipeline to the coast, has its first pumping station at this camp, this is supplied with power from the El Centro power station. The same station furnishes the entire lighting for the camp at Infantas and El Centro, and all field pumping stations, and there remains sufficient reserve to take care of such well pumping as may be necessary in the future when the flush production falls off. In this connection, the company is now experimenting with the most up-to-date application of the gas-lift and gas drive, and it is hoped that it will not be necessary to resort to pumping for some time to come.

FUEL for all boilers in the field and at the power stations at El Centro and Barranca is furnished by gas produced from the wells. The surplus gas is passed through a gasoline plant at El Centro which produces about 11,000 gallons of gasoline a day. Another gasoline plant will shortly be erected on the La Cira field, and it is estimated that eventually there will be a gasoline production of 50,000 gallons daily.

Measures have had to be taken to prevent losses by evaporation of the oil due to the tropical climate. This is accomplished in part by all oil pumped from the field being passed through vacuum stripping towers, the wild gases being taken off and returned to the gasoline absorption plant. This precaution has the merit of stabilizing the oil to a very great extent before it is turned over to the pipe line company. Storage tanks are insulated by the Johns-Manville process.

The Andian pipe line to the coast ranks as one of the foremost engineering feats in the history of the oil business; when first put in commission a year or so ago, it had a capacity of 30,000 barrels a day; since then it has been looped and can now handle 50,000 barrels daily.

The lack of transportation facilities and the great distance from the source of supply are obstacles that have only been surmounted by heavy investments in repair shops and transportation equipment. The Tropical Oil company has largely overcome these difficulties and today, besides supplying the entire market of Colombia with refined products from their local plant at Barranca, is shipping some 1,350,000 barrels a month to North America.

Four States Meeting Program is Issued

CLEVELAND, Sept. 27.—George S. Allee, secretary of the Missouri Oil Men's Association, has issued a program for the Four States jobbers' convention which will be held Oct. 4, 5 and 6 in the Kansas City Athletic club, Kansas City, Mo.

There will be a meeting at 10:30 a.m. Oct. 4 of the Kansas Oil Men's Association, Iowa Independent Oil Men's Association, the Nebraska Independent Oil Men's Association, and the Missouri association.

A. L. Lommel, president of the Iowa association, will be in the chair at a joint meeting the afternoon of Oct. 4. Addresses on the "Gasoline of Tomorrow" will be delivered by Dr. M. R. Mandelbaum, Gray Processes Co., Newark, N. J., and Dr. George G. Brown, professor of chemical engineering, University of Michigan, who has directed the research work of the Association of Natural Gasoline Manufacturers. The name of a speaker who will discuss the "Automobiles of Tomorrow," will be announced later.

A. C. Carpenter, president of the Kansas association, will preside at a joint meeting the morning of Oct. 5. Addresses will be as follows:

"Lubricants and Lubrication," C. O. Hoover, Deepwater Oil Refineries, Inc., Houston.

"Credits and Collections," George D. Tubbs, Foster Lumber Co., Kansas City.

"Sales Promotion," C. W. Giller, Shelby Sales Book Co., Shelby, O.

"Fire Hazards and Fire Prevention," H. M. Ewing, National Petroleum Mutual Fire Insurance Co., Philadelphia.

In the afternoon of Oct. 5 Morris Milder, president of the Nebraska association, will preside. An address entitled, "Should Country Jobbers Advertise—If So, How?" will be delivered by Glen Condon, advertising manager, Skelly Oil Co., Tulsa.

An address, title of which will be announced later, will be delivered by C. A. Knutson, Clear Lake, Iowa.

In the evening the Kansas City Oil Men's club will entertain with a dinner and smoker. The convention will conclude the morning of Oct. 6 with a motor bus trip to Kansas City industries.

Article 4 in the series on practical refinery operations that is being written exclusively for NATIONAL PETROLEUM NEWS by D. F. Gerstenberger, will appear in the Oct. 5 issue.

In this article Mr. Gerstenberger takes up the absorption plant for the recovery of gas line from the still gases in the refinery. He discusses various installations and gives some suggestions, drawn from actual experience, on how to make an absorption plant carry an overload when necessary.

McAtee Announces Tax Conference Program

CLEVELAND, Sept. 26.—William A. McAtee, chief oil inspector of Missouri, has announced the program for the North American Gasoline Tax Conference, which will be held Oct. 3, 4, and 5 in the Deshler-Wallick hotel, Columbus, O. Mr. McAtee is chairman of the conference.

After a welcoming at 9 a.m. Oct. 3 by Gov. Vic Donahey of Ohio and a response by Solomon Levitan, state treasurer of Wisconsin, James Duce, state inspector of oils of Colorado, will speak on "Inspection—Its Critics." A discussion will be led by Hjalmar Nilsson, state oil inspector of Minnesota. E. D. Graham, gasoline tax department chemist of Oklahoma, will read a paper on "The Distillation Board. Committee meetings will be held in the afternoon.

A "Review of Recent Legislation" will be given the morning of Oct. 4 by Edward Martin, auditor general of Pennsylvania, and the topic will be discussed by T. W. Bass, gasoline tax administrator of Nebraska. "The gasoline Tax in Canada" is the topic of a discussion by W. H. Brown, department of public highways of Ontario. The oil industry's views will be presented by Frank E. Packard, tax attorney of the Standard Oil Co. of Indiana, whose address is entitled, "Trend of Gasoline Tax Legislation—Views of the Industry."

Court decisions will be reviews by F. S. Hall, commissioner of finance and taxation of Tennessee. In the afternoon committee reports will be received. After receiving the final committee reports the morning of Oct. 5 the conference will adjourn.

A banquet will take place the evening of Oct. 4.

TULSA—A. M. Gee, who for several years has headed the legal department of the Ohio Oil Co., Rocky Mountain division, has been transferred to Tulsa where he will be in charge of the legal work of the Mid-Kansas Oil & Gas Co., subsidiary of the Ohio company.

LOS ANGELES—R. H. Morrison was recently promoted to the position of assistant manager of the land lease department of the Standard of California upon the resignation of L. L. Hillman to enter business for himself. Mr. Morrison will have his headquarters at Los Angeles.

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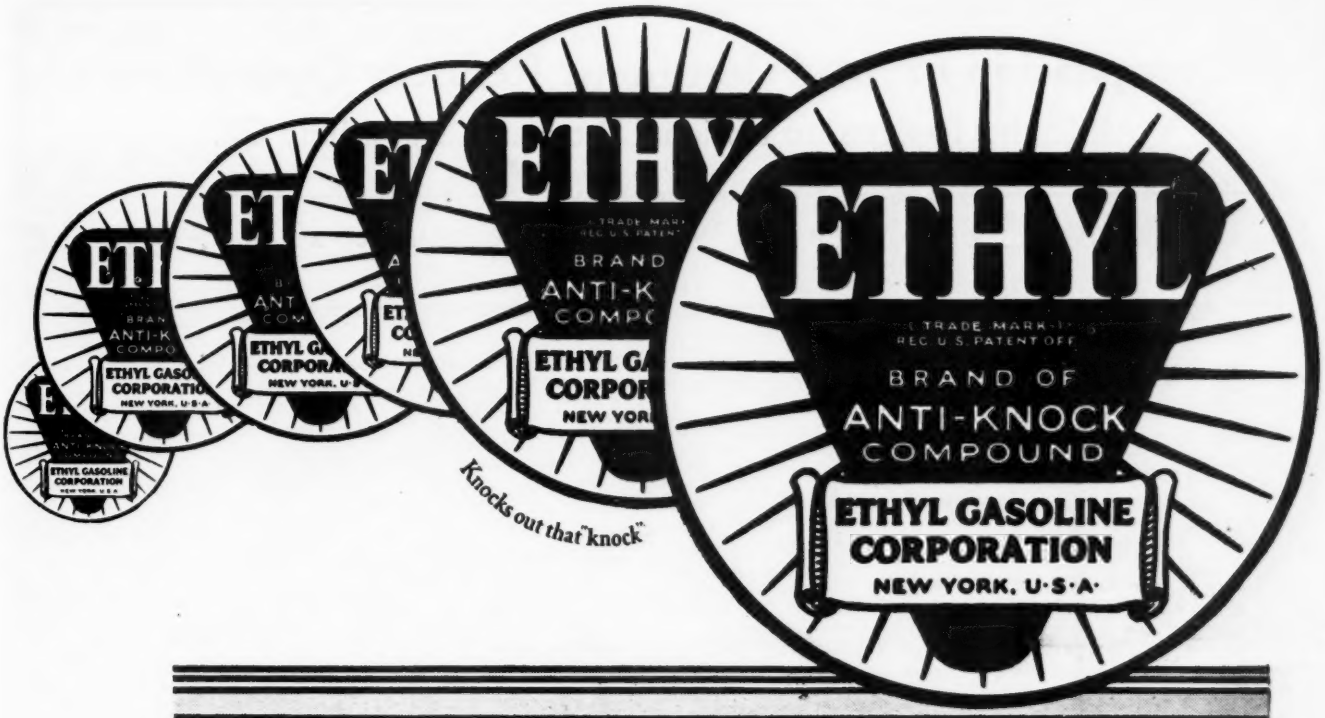

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Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended September 23 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	North La.-Ark.	Total Week Ended Sept. 23	Total Week Ended Aug. 26
Plants Reporting	23	46	41	14	124	124
Crude Capacity (bbls.)	106,200	165,900	144,300	53,700	470,100	470,100
Cracking Capacity	29,000	45,800	15,750	20,200	110,750	110,750
Da. Av. Crude Runs	57,538 — 6.1	118,747 + 1.4	59,978 + 1.0	47,002 + 0.8	283,265 — 0.4	281,702
Da. Av. Other Oils	6,460 + 79.6	704 — 70.8	6,317 — 11.4	2,011 +100.7	15,492 + 9.6	12,506
GASOLINE—Gallons						
Stocks, Sept. 16	5,867,000	32,241,000	15,205,000	2,172,000	55,485,000	70,733,000
Prod. 9-16 to 9-23	8,781,000 + 3.9	19,120,000 + 2.7	7,625,000 + 4.4	4,134,000 + 9.7	39,660,000 + 4.0	38,092,000
Ship. 9-16 to 9-23	8,553,000 — 11.8	20,990,000 — 6.7	7,255,000 + 2.8	3,569,000 — 8.3	40,367,000 — 6.4	38,928,000
Stocks, Sept. 23	6,095,000 + 3.9	30,371,000 — 5.8	15,575,000 + 2.4	2,737,000 + 26.0	54,778,000 — 1.3	69,897,000
Ratio Sales to Prod.	97.4%	109.8%	95.1%	86.3%	101.8%	102.2%
KEROSENE—Gallons						
Stocks, Sept. 16	3,364,000	3,711,000	1,633,000	427,000	9,135,000	11,912,000
Prod. 9-16 to 9-23	1,580,000 — 11.4	2,781,000 — 5.5	1,098,000 — 28.5	465,000 + 4.5	5,924,000 — 11.7	6,139,000
Ship. 9-16 to 9-23	1,526,000 — 26.2	1,996,000 — 41.3	1,301,000 — 28.7	344,000 — 21.3	5,167,000 — 33.2	7,055,000
Stocks, Sept. 23	3,418,000 + 1.6	4,496,000 + 21.2	1,430,000 — 12.4	548,000 + 28.3	9,892,000 + 8.3	10,996,000
Ratio Sales to Prod.	96.6%	71.8%	118.5%	74.0%	87.2%	114.9%
STOVE DISTILLATE—Gallons						
Stocks, Sept. 16	4,855,000	7,169,000	2,229,000	84,000	14,337,000	11,891,000
Prod. 9-16 to 9-23	425,000 — 2.7	891,000 + 14.1	276,000 + 16.9	68,000 — 9.3	1,660,000 + 8.6	1,536,000
Ship. 9-16 to 9-23	324,000 — 19.6	508,000 + 92.4	710,000 +320.1	68,000 + 7.9	1,610,000 + 79.1	904,000
Stocks, Sept. 23	4,956,000 + 2.1	7,552,000 + 5.3	1,795,000 — 19.5	84,000 0	14,387,000 + 0.3	12,523,000
Ratio Sales to Prod.	76.2%	57.0%	257.2%	100.0%	97.0%	58.9%
GAS OIL—Gallons						
Stocks, Sept. 16	9,014,000	40,191,000	17,051,000	9,854,000	76,110,000	73,578,000
Prod. 9-16 to 9-23	1,626,000 — 3.4	1,856,000 — 30.0	1,195,000 — 11.0	1,859,000 — 11.0	6,536,000 — 15.8	7,361,000
Ship. 9-16 to 9-23	1,998,000 — 15.0	1,142,000 — 56.7	1,365,000 + 30.1	2,073,000 — 23.1	6,578,000 — 24.6	6,144,000
Stocks, Sept. 23	8,642,000 — 4.1	40,905,000 + 1.8	16,881,000 — 1.0	9,640,000 — 2.2	76,068,000 — 0.1	74,795,000
Ratio Sales to Prod.	122.9%	61.5%	114.2%	111.5%	100.6%	83.5%
FUEL OIL—Gallons						
Stocks, Sept. 16	14,158,000	43,305,000	33,205,000	9,418,000	100,086,000	99,007,000
Prod. 9-16 to 9-23	5,852,000 — 2.5	8,604,000 + 13.0	8,164,000 + 7.0	6,743,000 — 6.6	29,363,000 + 3.1	27,951,000
Ship. 9-16 to 9 23	4,401,000 — 14.2	6,884,000 — 18.7	7,800,000 + 10.7	6,427,000 — 9.6	25,515,000 — 8.1	27,996,000
Stocks, Sept. 23	15,606,000 + 10.2	45,025,000 + 4.0	33,569,000 + 1.1	9,734,000 + 3.4	103,931,000+ 3.8	98,962,000
Ratio Sales to Prod.	75.3%	80.0%	95.5%	95.3%	86.9%	100.2%

Gasoline Produced by Various Methods, Week Ended September 23

	Kansas	% of Total	Oklahoma	% of Total	Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	5,418,000	61.7	14,286,000	74.7	6,152,000	80.7	1,437,000	34.8	27,293,000	68.8
Cracked	2,795,000	31.8	3,062,000	16.0	1,165,000	15.3	2,155,000	52.1	9,177,000	23.1
Natural	568,000	6.5	1,772,000	9.3	308,000	4.0	542,000	13.1	3,190,000	8.1
Total	8,781,000		19,120,000		7,625,000		4,134,000		39,660,000	

+ or — columns are changes over previous week.

Small Draft Made on Mid-Continent Gasoline Stocks

Staff Special By Telegraph
TULSA, Sept. 27

FOR the fourth consecutive week gasoline shipments from 124 Mid-Continent refiners exceeded 40,000,000 gallons in the week ended Sept. 23, the 124 refineries reported to NATIONAL PETROLEUM NEWS.

Shipments the last week were 40,367,000 gallons. This volume was approximately 2,700,000 gallons less than shipments in the week ended Sept. 16, and slightly more than 3,000,000 gallons less than the record shipments of the week ended Sept. 2.

Although gasoline stocks at the 124 refineries were reduced about 700,000 gallons last week, Oklahoma refiners were the only ones to draw on stocks to supply the demand. Kansas refiners added about 200,000 gallons to stocks. Texas refiners increased stocks 370,000 gallons and Louisiana-Arkansas refiners almost 500,000 gal-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended Sept. 23. Change in stocks figured from Aug. 26.

GASOLINE

	Gallons
Production	153,775,000
Shipments	168,894,000
Net changes in stocks	— 15,119,000
Ratio of sales to production	109.8%

KEROSENE

	Gallons
Production	25,077,000
Shipments	26,181,000
Net change in stocks	— 1,104,000
Ratio sales to production	104.4%

STOVE DISTILLATE

	Gallons
Production	6,640,000
Shipments	4,516,000
Net change in stocks	+ 1,864,000
Ratio sales to production	72.1%

GAS OIL

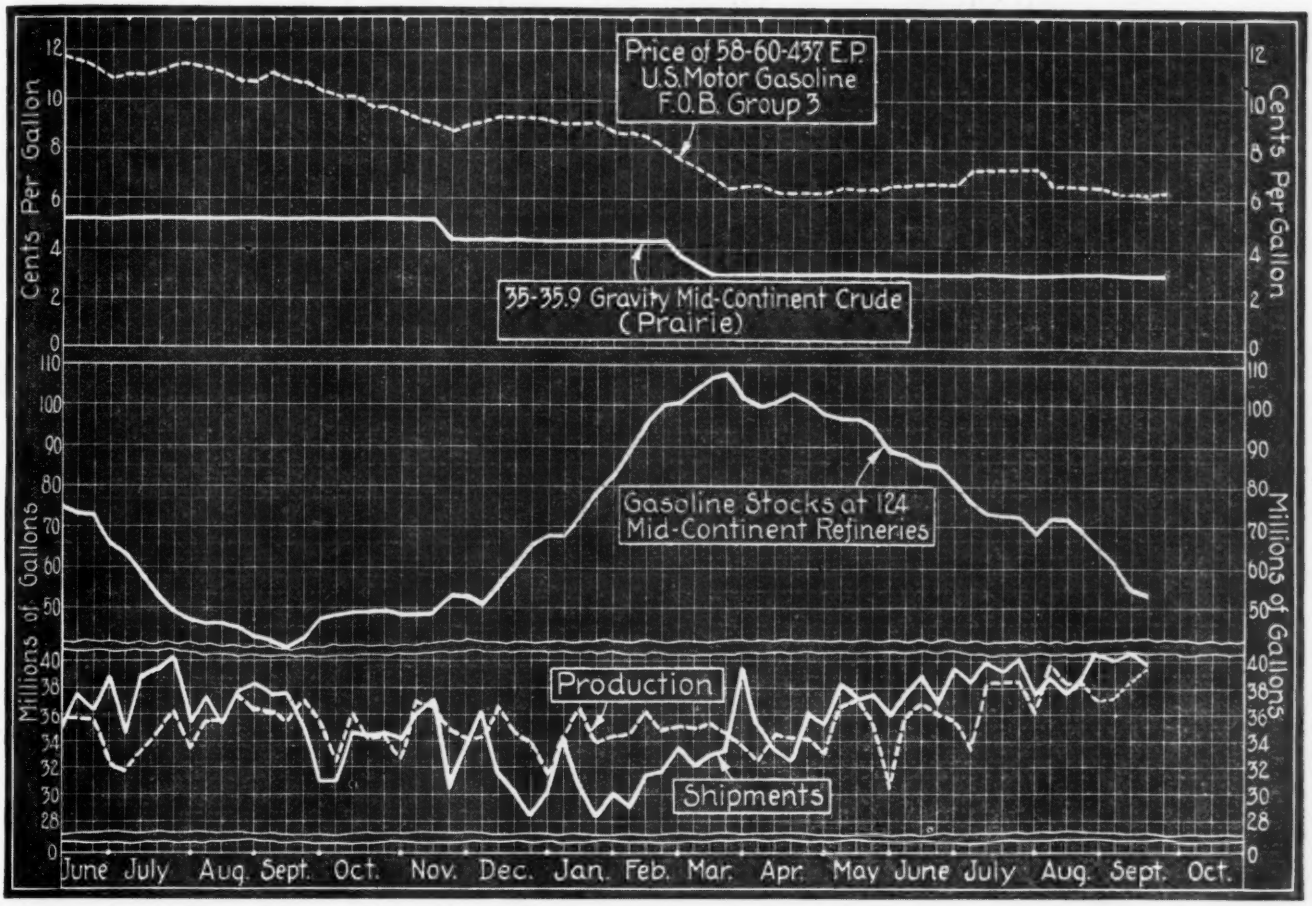
	Gallons
Production	28,700,000
Shipments	27,427,000
Net change in stocks	+ 1,273,000
Ratio sales to production	95.6%

FUEL OIL

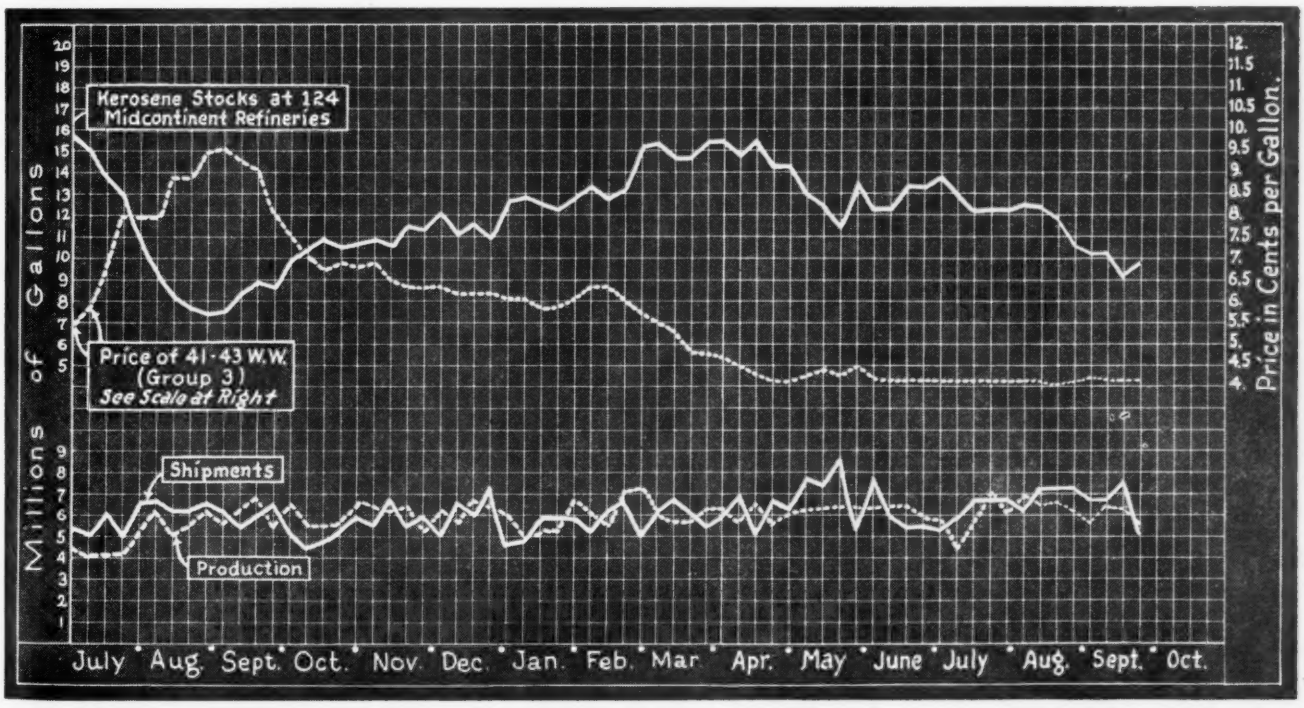
	Gallons
Production	114,877,000
Shipments	109,905,000
Net change in stocks	+ 4,972,000
Ratio sales to production	95.7%

Barometer of Mid-Continent Refinery Market—Week Ending September 23

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

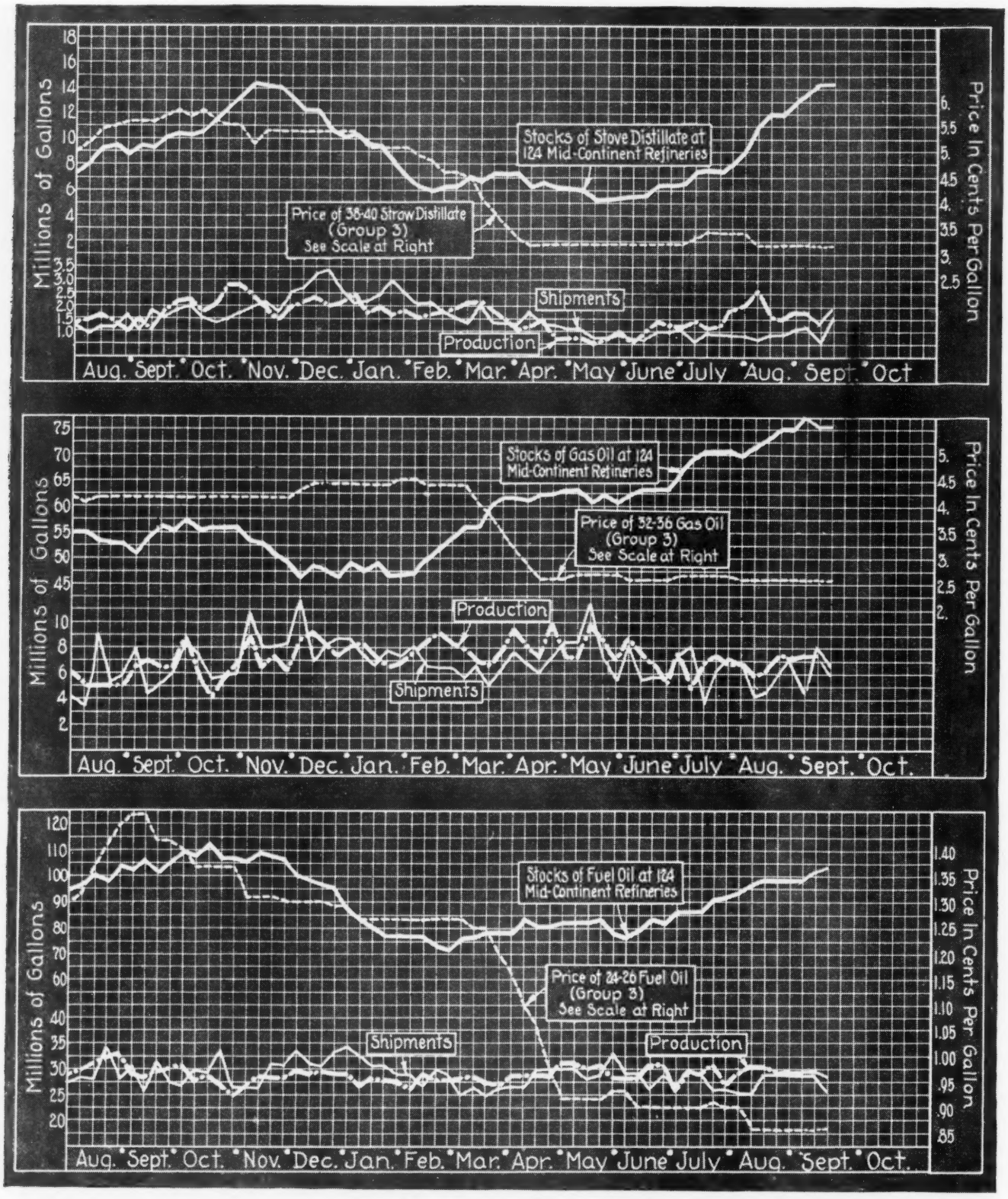


Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date shown in table on opposite page


Kerosene Stocks at 124
Midcontinent Refineries
Price of 41-43 W.W.
(Group 3)
See Scale at Right
Shipments
Production
Millions of Gallons
Price in Cents per Gallon.
July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.

Barometer of the Mid-Continent Refinery Market—Week Ending Sept. 23, 1927

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, From Reports Made by 124 Plants to National Petroleum News

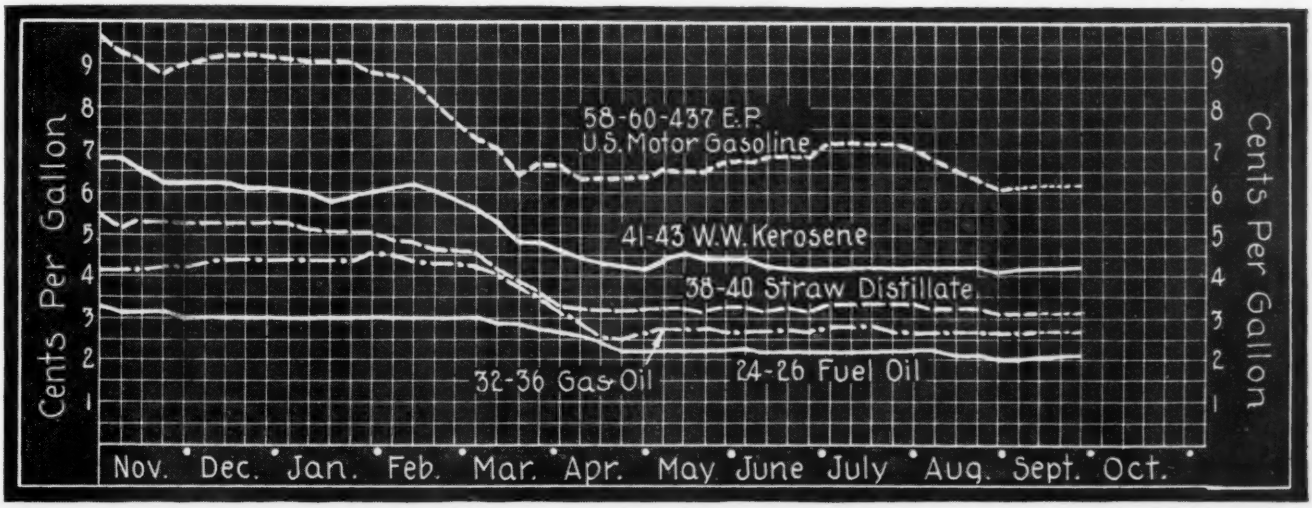

Millions of Gallons
Price In Cents Per Gallon
Stocks of Stove Distillate at 124 Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct
Millions of Gallons
Price In Cents Per Gallon
Stocks of Gas Oil at 124 Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) See Scale at Right
Production
Shipments
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.
Millions of Gallons
Price In Cents Per Gallon
Stocks of Fuel Oil at 124 Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) See Scale at Right
Shipments
Production
Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June July Aug. Sept. Oct.

lons. Oklahoma refiners, however, reduced stocks 2,130,000 gallons.

Production of gasoline totaled 39,660,000 gallons, an increase of 1,500,000 gallons over the preceding week's output. The increase was distributed over all fields. Crude runs totaled 293,265 barrels daily average a decrease of 1,100 barrels compared with runs the previous week. Charges of other oils were increased 1,360 barrels.

Kerosene production was curtailed approximately 700,000 gallons, the output totaling 5,925,000 gallons. Shipments fell 2,500,000 gallons to 5,167,000 gallons. Kerosene stocks were increased 750,000 gallons. Texas refiners were the only ones to reduce stocks. Kerosene stocks Sept. 23 totaled 9,892,000 gallons, compared with

Current Prices of Principal Mid-Continent Refined Products



Prices shown above are on Group 3 basis and extended to date shown in Refinery Market Tables in Market Section of this Issue

8,832,401 gallons a year ago.

Stove distillate stocks were increased only 50,000 gallons. Production was up 100,000 gallons. Shipments were up approximately 700,000 gallons. Kansas and Oklahoma refiners failed to move their production. The other two areas drew on stocks.

Gas oil production and shipments decreased as compared with the previous week's output and shipments but in the whole district stocks were reduced slightly. Oklahoma refiners were the only ones not to get sufficient business to cause them to draw on stocks. Stocks Sept. 23 totaled 76,068,000 gallons compared with 56,097,000 gallons a year ago.

Fuel oil stocks were increased 3,800,000 gallons when shipments fell to 25,515,000 gallons. Production increased 800,000 gallons. Fuel oil stock total 103,934,000 gallons. This total is still almost 3,000,000 gallons under the total a year ago.

Correction

It was erroneously reported on page 64 of the Sept. 7 issue that the Iowa Park Producing & Refining Co. would close its plant at Iowa Park, Tex. as soon as present orders were filled. Further mention of this was made in the Sept. 21 issue on page 341 on the same authority. The company has merely closed its Wichita Falls sales office which was in charge of V. E. Jackson resigned. The company will maintain its general offices at Iowa Park as before and does not contemplate closing the plant, according to J. D. Overbey, secretary. The company has never closed down its plant except for a day or two for necessary repairs.

Mid-Continent Refinery Operators to Meet

Staff Special

TULSA, Sept. 26.—The fall technical meeting of the Western Petroleum Refiners Association will be held at El Dorado and Wichita, Kan., on Oct. 10 and 11 it was announced by C. L. Henderson, vice president of the Vickers Petroleum Co. and chairman of the association's manufacturing committee.

The first day's meeting will be held at El Dorado so that refinery superintendents and technologists of the southwest may visit refineries in that city. In the morning, beginning at 10 o'clock, the refinery men will meet at the El Dorado hotel to hear a paper on distillation and fractionation by F. C. Koch of Winkler and Koch, refinery engineers, and a paper on safety at refineries by Don J. Wallace, safety director of the Mid-Continent Oil & Gas Association.

After each paper there will be a round table discussion of the topics. In the afternoon the refinery men will be conducted through the Skelly Oil Co.'s big plant at El Dorado and will motor to Augusta to visit the plant of the White Eagle Oil & Refining Co.

The second day the meeting is to be held at the Lassen hotel at Wichita. In the morning, papers will be presented by F. M. Poole of the Brown Instrument Co., on "Automatic Process Controls," by P. W. Thomas of the Combustion Equipment Co., on "Fuel Economy at Refineries," and by A. Henriksen, chief chemist of the Marland Refining Co. on "Treating Pressure Benzine."

Following a luncheon at the hotel the refinery men will visit the plants of the Derby Oil & Refining Co., Barnsdall Refining Co. and the Golden Rule Refining Co. at Wichita, and the Vickers Petroleum Co. plant at Potwin, Kan.

A meeting similar to the one planned was held at Wichita Falls, Tex., early in the year. The Association executives decided this year to abandon its technical program at the annual convention and hold group meetings in various parts of the field where the refinery operators and technologists might visit other plants in connection with their discussion of operating problems.

Cimarron County Tests Make Slow Time

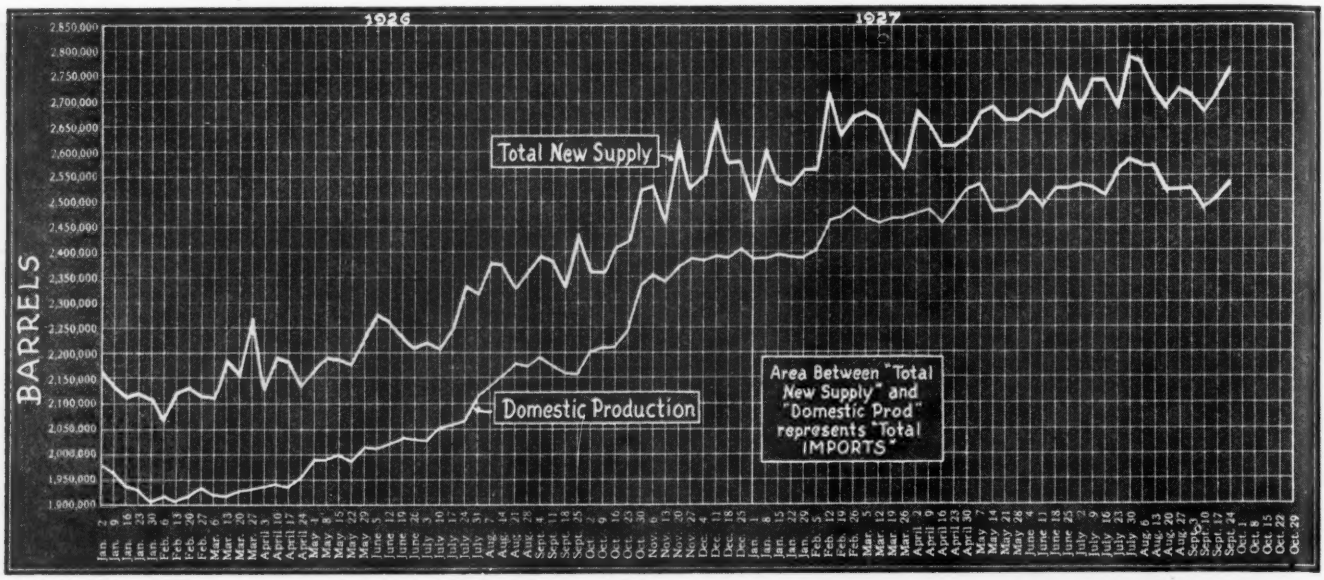
Staff Special

TULSA, Sept. 24.—Drilling operations in Cimarron county, the extreme western part of Oklahoma, have proceeded slowly since Ramsey Bros., Oklahoma City, got a showing for about 35 barrels early this year. This well, No. 1 State land, in the center of the SW NE 27-5N-5E, had its oil in a formation topped at 4095 feet and was shot with 30 quarts from 4090 to 4140 feet. Drilling was then resumed and it is now drilling below 4450 feet.

In the same county there are five other operations, none of which has as yet shown anything. Ramsey Bros. are drilling at 3870 feet in the southeast corner of 4-5N-6E. Gladys Bele Oil Co. has reached total depth of 4120 feet in the SW NE 25-3N-7E. Granite wash was found at 2970-82 feet.

Jake G. Phillips, in NW of 24-6N-2E is underreaming 6-inch at 3660 feet. Sinclair Oil & Gas Co. is in a fishing job at 3745 feet in the NW of 22-5N-2E. Fenton, Brookins and Flowers, who spudded and shut down several months ago in the NW NE NE of 2-2N-9E, have never started drilling.

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	Sept. 24	Sept. 17
Production east of Rockies	1,896,300	1,855,750
Increase		40,550
Total production in U. S.	2,534,100	2,494,850
Increase		39,250
Crude oil imports	221,000	220,143
Increase		857
Total crude supply	2,755,100	2,714,993
Increase		40,107

OKLAHOMA

	Sept. 24	Sept. 17
North Braman	2,900	3,050
South Braman	2,250	2,200
Blackwell	3,950	3,950
Hubbard	4,000	4,100
Thomas	3,850	4,200
Tonkawa	18,650	18,700
Garber	10,950	10,950
Burbank	35,850	36,150
Osage, outside Burbank	30,850	31,050
Watchorn	1,800	1,800
Cushing	21,300	21,250
Yale Jennings	9,650	9,700
Davenport	2,900	2,800
Bristow-Slick	24,950	25,050
North Okmulgee	16,200	16,250
Lyons-Deaner	5,050	5,050
Stroud	1,300	1,250
Cromwell	13,250	12,950
Papoose	6,350	6,500
Wewoka	14,200	13,650
Seminole	273,300	264,750
Earlesboro	171,350	161,700
Duncan district	6,950	7,000
Graham	6,700	6,750
Fox	1,900	1,900
Healdton	14,950	15,000
Hewitt	9,700	9,650
Scholem Alecham	15,950	16,450
Others	69,400	68,600
Total Oklahoma	800,400	782,400
Increase		18,000

KANSAS

Greenwood County	33,000	33,250
Florence-Covert	1,500	1,600
Peabody-Elbing	3,800	3,850
Eldorado-Towanda	14,300	14,100
Augusta-Fox-Bush	4,200	4,300
Rainbow Bend	2,200	2,200
Russell	2,500	2,500
Churchill	13,700	13,750
Others	30,000	29,700
Total, Kansas	105,200	105,250
Decrease		50

NORTH LOUISIANA

Homer	4,700	4,700
Haynesville	7,100	7,050
Caddo, light	13,200	13,700
Caddo, heavy	4,900	5,100
De Soto, Red River	5,000	4,000
Elm Grove	700	650
Bellevue	1,150	1,150
Cotton Valley	5,350	5,350
Urania	10,000	10,150
Pleasant Hill	1,250	1,550
Total, North Louisiana	53,350	53,400
Decrease		50

ARKANSAS

El Dorado	5,700	5,950
Smackover, light	9,950	10,100
Smackover, heavy	78,500	78,450
Stephens	1,200	1,200
Nevada	2,650	2,700
Lisbon	3,000	3,000
Others	100	100
Total, Arkansas	101,100	101,500
Decrease		400

TEXAS (OUTSIDE GULF COAST)

Panhandle District

	Sept. 24	Sept. 17
Hutchinson County	74,000	77,650
Carson County	8,650	8,850
Gray County	9,700	9,750
Wheeler County	1,350	1,450
Others	50	50
Total, Panhandle District	93,750	97,750
Decrease		4,000

North Texas

Burkburnett	12,800	12,950
Electra	12,000	12,100
Iowa Park and K-M-A	2,100	2,200
Wilbarger	11,850	12,000
Archer County	26,200	26,400
Montague-Cooke	15,750	15,900
Others	700	700
Total, N. Texas	81,400	82,250
Decrease		850

West Central Texas

Stephens County	8,450	8,400
Eastland-Desdemona	9,100	9,250
Brown County	24,600	24,400
Coleman County	1,200	1,200
Callahan County	3,600	3,750
Shackelford County	5,700	5,900
Young County	10,200	10,700
Th'ck rton County	1,200	1,250
Palo Pinto County	750	800
Others	1,350	1,350
Total, West Central Texas	65,550	67,000
Decrease		1,450

West Texas

Jones County	1,850	1,950
Mitchell & Scurry Counties	3,700	3,800
Howard County	3,000	3,150
Reagan County	23,600	24,100
Crane & Upton Counties	136,350	128,300
Crockett County	2,200	2,050
Pecos County	23,350	7,650
Winkler County	10,150	4,700
Others	2,250	2,500
Total, West Texas	206,450	178,200
Increase		28,250

East Central Texas

	Sept. 24	Sept. 17
Mexia	9,500	9,500
Currie	650	650
Richland	750	750
Wortham	2,800	2,900
Corsicana-Powell	14,900	15,000
Nigger Creek	1,700	1,750
Total, East Central Texas	30,300	30,550
Decrease		250

Southwest Texas

Luling	15,850	16,000
Lytton Springs	1,900	1,600
Somerset	900	900
Laredo District	9,350	9,600
Piedras Pintas	50	50
Others	2,350	600
Total, Southwest Texas	30,400	28,750
Increase		1,650
Total, Texas—(Outside Gulf Coast)	507,850	484,500
Increase		23,350

GULF COAST

Coastal Texas

West Columbia	10,800	8,550
Damon Mound	900	900
Big Creek	2,850	2,500
Boling	2,400	2,700
Blue Ridge	3,800	3,750
Pierce Junction	9,050	8,450
Humble	2,200	2,300
Goose Creek	8,050	8,250
South Liberty	2,600	2,750
Hull	14.700	14,200
Saratoga	1,000	900
Batson	1,400	1,550
Sour Lake	4,000	4,100
Spindletop	57,050	59,000
Orange County	4,600	4,850
Others	3,800	4,000
Total, Coastal Texas	129,200	128,750
Increase		450

Coastal Louisiana

	Sept. 24	Sept. 17
Vinton	5,000	4,950
Lockport	5,850	6,000
Evangeline	1,200	1,200
Edgerly	2,200	2,450
Others	1,500	1,800
Total, Coastal Louisiana	15,750	16,400
Decrease		650
Total, Gulf Coast	144,950	145,150
Decrease		200

ROCKY MOUNTAIN

Wyoming

Salt Creek	32,750	32,850
Grass Creek	2,450	2,650
Elk Basin	1,100	1,000
Big Muddy	2,900	3,000
Lost Soldier	2,650	2,850
Rock River	2,850	2,750
Lance Creek	700	650
Teapot Dome	850	750
Others	5,550	3,550
Total, Wyoming	51,800	50,050
Increase		1,750

Montana

Cat Creek	2,050	2,100
Sunburst	11,500	11,500
Others	200	200
Total, Montana	13,750	13,800
Decrease		50

Colorado

Moffat (Craig)	1,650	1,650
Fort Collins	2,800	2,750
Florence	1,000	950
Others	1,350	1,300
Total, Colorado	6,800	6,650
Increase		150

New Mexico

Table Mesa	150	250
Artesia	1,300	1,300
Hogback	400	700
Rattlesnake	150	300
Others	100	.....
Total, N. Mexico	2,100	2,550
Decrease		450
Total, Rocky Mountain	74,450	73,050
Increase		1,400

California

	Sept. 24	Sept. 17
Santa Fe Springs	39,000	39,000
Long Beach	90,500	91,000
Huntington Beach	65,500	67,000
Torrance	21,000	21,500
Dominguez	15,000	15,000
Rosecrans	8,000	8,000
Inglewood	33,500	33,000
Midway-Sunset	84,000	84,000
Ventura Avenue	57,800	58,100
Seal Beach	68,500	67,500
Others	155,000	155,000
Total California	637,800	639,100
Decrease		1,300

Eastern

(Including Ill., Ind., Ky., Ohio, W. Va., Pa., and N. Y.)	109,000	110,500
Decrease		1,500

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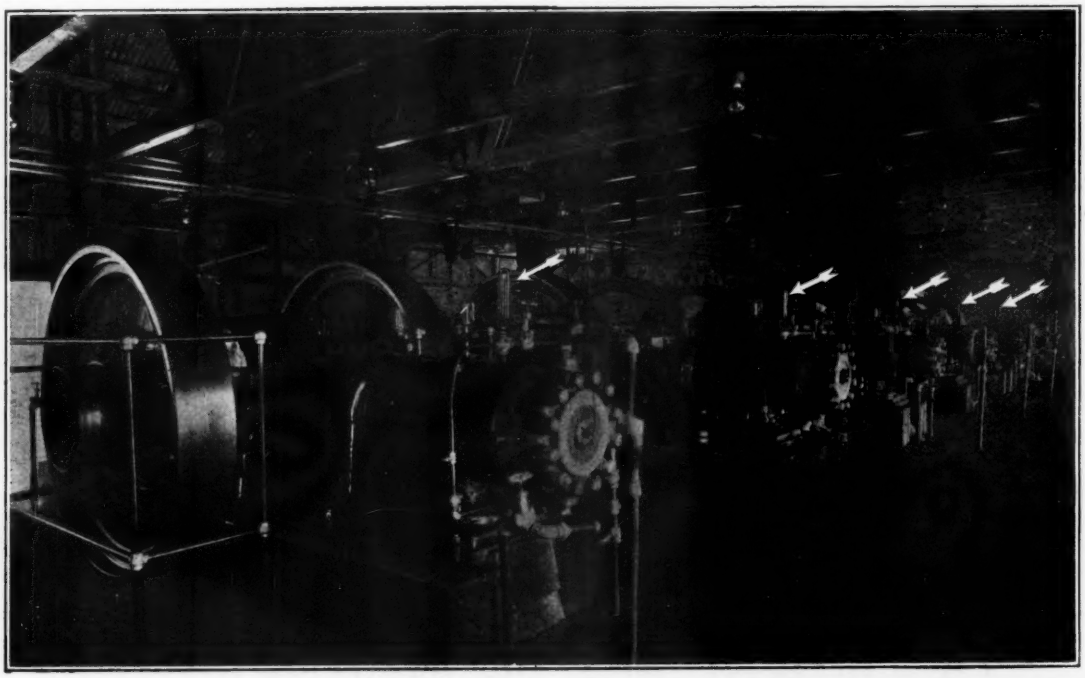

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INDICATING - RECORDING - CONTROLLING

Dry Hole Northwest of Little River Discovery Well Jolts Field

By Lawrence E. Smith
N. P. N. STAFF WRITER

TULSA, Sept. 24

CONDITIONS in the Mid-Continent field were much better and much worse the last week, according to whom the searcher for information queried. On the darker side of the opining were those who pointed to the lateness of the season and the impending decrease in consumption, which will cause a reduction of refinery runs and further increases in storage of crude oil.

Those more hopefully inclined pointed out that the latest proration agreement, arrived at Friday, will hold Little River within reasonable bounds and that it doesn't promise to be a very large field. Further, they asserted, the Bowlegs and Earlsboro districts are on the verge of a sharp decline and set up as corroborative evidence the continued decline of gas pressure in those fields and the insignificance, relative to early completions, of the wells that are now being finished. They pointed, furthermore, to the failure that has just been completed in the Little River field, a little more than one-half mile from the discovery well of the field.

It is just as well, however, to refrain from waiving the Seminole district out of the major leagues for a while. There is still plenty of oil there to satisfy the most eager customer. The district as a whole increased from 427,920 barrels Sept. 16 to 450,843 barrels Sept. 23, a gain of 22,923 barrels. Of this amount, however, Little River contributed 22,452 barrels because the wells were being produced to capacity on the latter date, whereas they were pinched to around 1,000 barrels each at the end of the preceding week.

Bowlegs gained 11 wells between the two dates mentioned and gained 1,831 barrels; Little River got one more well and gained 22,452 barrels; Earlsboro increased 10 wells and lost 2,362 barrels; Searight acquired two new wells and gained 392 barrels, and the original Seminole field got four more wells and gained 611 barrels.

Thus, it is seen, that for the moment all fields except Little River are at a standstill. The only notable performance in any of the four older pools was in Earlsboro where the Independent Oil & Gas Co.'s No. 1 Gaines, SE NE NE of 11-9-5, was holding around 11,000 barrels at the end of the week. This well was originally completed for 3,200 barrels Aug. 9. It died on Sept. 12, was cleaned out and flowed 7,700 barrels Sept. 15. It kept increasing, hitting a high mark of 500 barrels an hour.

The Little River failure is the Gypsy Oil Co.'s No. 1 Wakkie, SE NE SW of 35-8-6, a little more than a half mile northwest of the Indian Territory Illuminating Oil Co.'s discovery. Top of the Wilcox was found in this well at 4,285 feet and from 4287-90 the hole filled 600 feet with salt water. No show of oil or gas was found. The company probably will drill deeper.

This well ran considerably lower than did the discovery, which found top of the Wilcox at 4017 feet. Ele-

Bulletin

TULSA, Okla., Sept. 26.—Another failure has been drilled in the Little River pool. This is the Barnsdall Oil Co.'s No. 1 Davis, southeast northwest of 2-76 about a half mile southwest of the Discovery well. It got top Wilcox at 4,341 feet and at 29 feet it has 3,000 feet of water in the hole.

Completions in N. E. Central, West, Panhandle and North Texas, Week Ended Sept. 24, 1927

NORTH-EAST CENTRAL DISTRICT

Brown County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Curry et al	2-Teague	Miller	1085-1097	41
Cranfill-Reynolds	7-Smith	SAMG	1314-1337	200
Phillips	2-Newsome	Presslar	1318-1333	600
Roxana	6-Smith	SAMG	1305-1327	902
Roxana	10-Smith	SAMG	1324-1316	374
Roxana	13-Smith	SAMG	1329-1355	67
Sinclair	1-Smith	SAMG	1325-1327	7
Smith	2-Smith	SAMG	1318-1330	500
Smith	3-Smith	SAMG	1333-1350	500
Smith	4-Smith	SAMG	1344-1355	800
Advance	2McMahon	Ford	1446-1595	1½M
Kone	5-Hickman	Benson	1248	Dry
Cates	1-Cniper	TP	T.D. 1560	Dry
Rex-Tex	1-Smith	SAMG	T.D. 1398	Dry
Anderson et al	1-Thompson	H&TB	T.D. 1303	Dry
Beal et al	1-Thompson	Dunkan	T.D. 1603	Dry

Cherokee County

Humble	2-Earl	Johns	T.D. 4566	Dry

Coleman County

Douglas	2-Weaver	Gable	T.D. 2004	Dry
Mitchell	1-Stuart	George	T.D. 1241	Dry

Eastland County

McLester	3-Thrope	Stubblefield	3682-3696	250
Gholson et al	1-Baxendale	Hooe	T.D. 3750	Dry
Teatsorth et al	3-Citizens	ET	T.D. 1640	Dry
Leen	1-Morris	H&TC	T.D. 3110	Dry

Shackleford County

Rosier et al	1-Walker	TEL	T.D. 808	Dry

NORTH TEXAS

Archer County

McGregor	1-Farmer	NAR	1486-1490	110
Panhandle et al	2-Farmer	NAR	1485-1486	110
Shappell	5-Wilmot	SP	T.D. 1598	Dry
Burton	1-Farmer	Poitevent	T.D. 1550	Dry
Roberts	1-Blewitt	SP	T.D. 1524	Dry
Albright et al	1-Foster	Sanders	T.D. 735	Dry

Cooke County

Oil Opers	3-Koelzer	Scott	1624-1651	90
Stahl-Lynch	5-Koelzer	Scott	1626-1659	75
Stroube	5-Koelzer	Scott	1612-1636	65
Housemen et al	1-Walterschied	MT	T.D. 1925	Dry

King County

Company	Well Farm	Location Survey	Depth	Init. Prod.
Sinclair	1-Burnett	Elliott	T.D. 3509	Dry

Knox County

Texas	1-Dowden	H&TC	T.D. 2254	Dry

Wichita County

Everts	1-Gibson	Waggoner	T.D. 2010	Dry
Grisham et al	1-Ferguson	Spillers	T.D. 1856	Dry
Seaboard et al	2-Ferguson	Lewis	T.D. 1303	Dry
Texas	332-Waggoner	H&TB	1720-1733	24

Wilbarger County

Phillips	7-Waggoner	H&TC	T.D. 2005	Dry

Young County

Baldwin-Clark	1-Spinman	Stoneman	T.D. 650	Dry

PANHANDLE

Carson County

Empire	1-Burnett	I&GN	2285-2395	35M
Empire	7-Burnett	I&GN	2333-2370	45M
Mound	1-Whitter	I&GN	2325-3706	9M

Gray County

Sun	5-Worley	I&GN	3170-3520	20M&D
Empire	1-Cubins	I&GN	2215-2220	12

Potter County

Amarillo	2-Masterson	DP	2360-2380	8M

Wheeler County

Woodley	1-Fee	I&GN	T.D. 2382	Dry

WEST TEXAS

Crane County

Simms-Atlantic	7-Univ.	Univ.	2795-2812	7240
Simms-Atlantic	8-Univ.	Univ.	2805-2952	4078
Gulf	35-McElroy	CSSD	2789-2915	120
Gulf	35-McElroy	GCSD	2915-2886	965
Landreth	15-Cowden	Anderson	2860-2993	200
Simms-Atlantic	7-Univ.	Univ.	2816-2950	130

Crockett County

Hughes	2-Powell	GSSF	2655-2678	60
Humble	3-Powell	EL	2582-2603	40

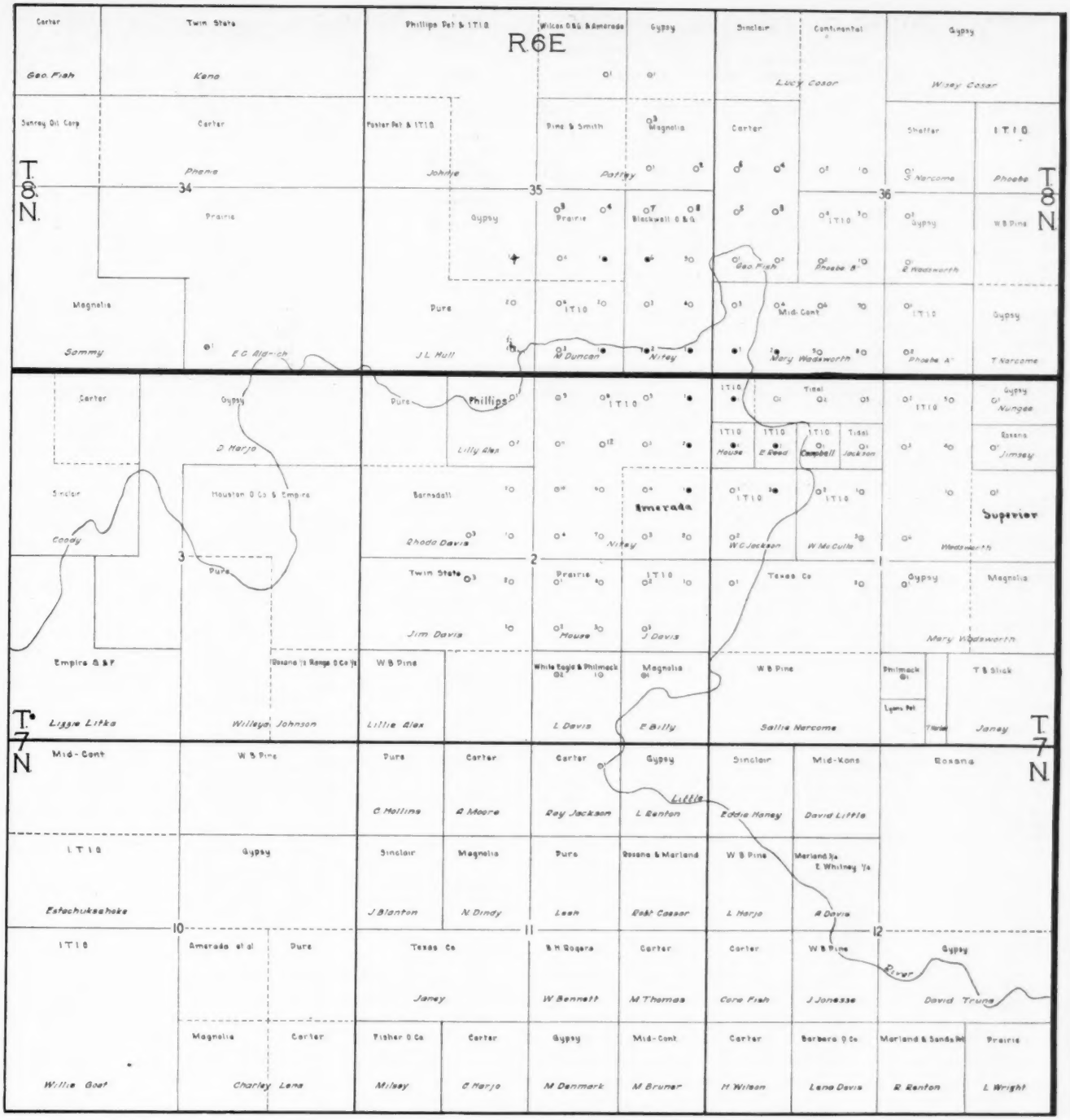
Seminole District Production by Companies and Leases, September 23 and September 16, 1927

Company	Farm	S.T.R.	Sept. 23 No. Wells	Sept. 23 Prod.	Sept. 16 No. Wells	Sept. 16 Prod.
Bowlegs						
Amerada	Rascoe	15- 8-6	8	6,525	8	6,905
Atlantic	Baker	1- 8-6	4	1,846	4	2,034
Atlantic	Fleet	23- 8-6	4	1,572	4	1,689
Atlantic	Grayson	12- 8-6	2	2,527	1	2,289
Atlantic	A. Jones	16- 8-6	3	193	3	220
Atlantic	C. Jones	9- 8-6	3	1,454	4	1,823
Total Atlantic			16	7,610	16	8,055
Barnsdall	McNac	28- 8-6	1	50	1	55
Barnsdall	Murrow	11- 8-6	4	2,249	4	2,216
Total Barnsdall			5	2,299	5	2,171
Carter	Bowlegs	15- 8-6	3	2,365	3	2,625
Carter	Burden	23- 8-6	1	375	0	0
Carter	Harjoche	15- 8-6	6	2,090	6	2,295
Carter	Hilly	23- 9-6	1	1,535	1	1,615
Carter	McGeisey	15- 8-6	1	0	1	0
Carter	Walker	15- 8-6	2	985	2	1,035
Carter	Wise	23- 8-6	10	8,710	10	9,090
Carter	L. Jones		1	110	0	0
Total Carter			25	16,170	23	16,660
Empire	Lacey	15- 8-6	6	1,334	6	1,547
Empire	Wise	23- 8-6	2	2,070	2	2,119
Total Empire			8	3,404	8	3,666
Gypsy	Bowlegs	22- 8-6	1	600	1	645
Gypsy	Brown	33- 8-6	1	100	1	102
Gypsy	Cumsey	8- 8-6	4	1,365	3	855
Gypsy	Grayson	13- 8-6	2	1,507	1	1,512
Gypsy	Walker	15- 8-6	8	3,992	8	3,852
Gypsy	Wise	23- 8-6	2	27	2	167
Total Gypsy			18	10,356	16	7,133
Indep. et al	Coker	21- 8-6	1	425	1	60
I. T. I. O.	Barnett	24- 8-6	2	1,146	2	1,296
I. T. I. O.	Billington	22- 8-6	3	1,227	3	1,316
I. T. I. O.	Bowlegs	22- 8-6	8	3,751	8	3,303
I. T. I. O.	Davis	13- 8-6	3	1,547	3	1,861
I. T. I. O.	Fay	18- 8-6	3	2,376	2	1,555
I. T. I. O.	Goforth	15- 8-6	10	3,035	10	3,049
I. T. I. O.	Livingston	15- 8-6	11	9,693	11	10,268
I. T. I. O.	Lizzie	11- 8-6	2	732	1	500
I. T. I. O.	Walker	15- 8-6	8	2,663	8	3,058
I. T. I. O.	Wilmont	15- 8-6	4	2,579	4	2,658
I. T. I. O.	Work	24- 8-6	1	694	1	597
I. T. I. O.	Youngblood	24- 8-6	4	872	4	823
Total I. T. I. O.			59	30,316	57	30,184
McCulloch	Bowlegs	22- 8-6	3	420	3	300
Mid-Continent	Baker	10- 8-6	4	4,193	4	4,744
Mid-Continent	Bowlegs	22- 8-6	1	935	1	1,010
Mid-Continent	Hutke	24- 8-6	1	5	1	2
Total Mid-Continent			6	5,134	6	5,756
Minnehoma	Bowlegs	15- 8-6	4	1,679	4	2,033
Prairie	Gahagan	23- 8-6	3	1,810	3	2,130
Prairie	Harber	10- 8-6	7	4,095	7	4,485
Prairie	Templeton	12- 8-6	1	2,985	1	3,185
Prairie	Jones	11- 8-6	1	1,440	0	0
Prairie	Whitney	23- 8-6	4	455	4	440
Total Prairie			16	10,785	15	10,240
Pure	Reed	14- 8-6	16	10,583	16	11,060
Pure	D. Strother	14- 8-6	2	1,172	2	1,213
Pure	E. Strother	16- 8-6	1	10	1	10
Pure	F. Strother	10- 8-6	1	642	1	631
Total Pure			20	12,407	20	12,904
Roxana et al	Taylor	16- 8-6	6	2,360	6	2,427
Shaffer	Lacey	14- 8-6	3	872	3	813
Sinclair	Adam	22- 8-6	1	0	1	0
Sinclair	Bowlegs	22- 8-6	1	115	1	20
Sinclair	Cumsey	10- 8-6	1	3,290	1	936
Sinclair	Harjo	14- 8-6	3	2,390	3	2,535
Sinclair	Jones	8- 8-6	4	7,730	4	7,875
Sinclair	Taylor	10- 8-6	4	3,866	4	4,073
Sinclair	Wlaker	22- 8-6	4	1,810	4	2,510
Total Sinclair			22	23,280	21	19,614
Texas	Reed	14- 8-6	7	6,630	7	6,850
Tidal	Grayson	13- 8-6	3	1,455	0	0
Tidal	Harjoche	10- 8-6	4	2,320	3	2,465
Twin State	Jones	11- 8-6	1	535	1	2,120
TOTAL BOWLEGS			236	142,199	225	140,368
LITTLE RIVER						
Amerada	Nitey	2- 7-6	1	0	1	100
Blackwell	Nitey	35- 8-6	3	9,527	3	3,895
I. T. I. O.	Dungan	35- 8-6	1	2,684	1	984
I. T. I. O. W.E.	House	1- 7-6	1	839	1	1,185
I. T. I. O. M.A.	House	1- 7-6	1	3,827	1	1,209
I. T. I. O.	Jackson	1- 7-6	1	2,964	1	1,189
I. T. I. O.	Nitey	2- 7-6	2	8,537	2	2,362
I. T. I. O.	Reed	1- 7-6	1	1,358	1	1,162
Total I. T. I. O.			7	20,389	7	8,091
Mid-Continent	Wadsworth	36- 8-6	2	3,000	2	1,360
P & R	Dungan	35- 8-6	1	3,162	0	0
TOTAL LITTLE RIVER			14	35,898	13	13,446
EARLSBORO						
Amerada	Anderson	15- 8-6	4	3,250	4	3,415
Amerada	Cowden	4- 9-5	4	1,545	4	1,780
Amerada	Rodgers	3-9-5	2	5,665	2	6,490
Total Amerada			10	10,460	10	11,685
Barnsdall	Brown	10- 9-5	3	4,723	2	4,029
Barnsdall	Bruner	10- 9-5	1	0	1	0
Barnsdall	C. Cudjo	11- 9-5	1	30	1	28
Barnsdall	D. Davis	11- 9-5	3	2,320	2	2,154
Barnsdall	J. Davis	11- 9-5	2	308	2	232
Barnsdall	M. Davis	11- 9-5	3	2,072	3	2,154
Barnsdall	Gibson	9- 9-5	6	4,915	6	7,030
Barnsdall	Hearn	15- 9-5	1	25	1	18
Barnsdall	Hooky	4- 9-5	1	0	1	0
Barnsdall	Ingram	4- 9-5	1	2,520	1	863
Barnsdall	Pack	10- 9-5	4	1,771	4	1,443
Barnsdall	Peter	10- 9-5	4	538	4	798
Barnsdall	Sebolka	15- 9-5	1	2,570	1	2,960
Barnsdall	Sango	2- 9-5	1	134	1	135
Banrsdall	Smith	15- 9-5	1	6	1	9
Barnsdall	Sullivan	1- 9-5	4	1,693	4	2,063
Barnsdall	Watsutke	12- 9-5	3	2,341	2	2,115
Total Barnsdall			40	26,000	37	26,031
Carter	Payne	12- 9-5	2	2,825	2	1,670
Carter	Sango	2- 9-5	2	395	2	560
Total Carter			4	3,220	4	2,230
Continental	Spencer	12- 9-5	3	6,935	2	5,300
Crosbie	Bryant	9- 9-5	2	2,435	2	2,532
Empire	Edmundson	3- 9-5	2	2,131	2	2,453
Gypsy	Bruner	10- 9-5	3	5,482	3	7,140
Gypsy	Carter	11- 9-5	5	5,827	4	3,665
Gypsy	Earl	16- 9-5	1	0	1	0
Gypsy	McFarland	9- 9-5	2	0	2	17
Gypsy	Noble	12- 9-5	3	4,105	1	1,505
Gypsy	Peter	10- 9-5	4	1,395	4	1,725
Gypsy	State	16- 9-5	4	377	4	717
Gypsy	Strain	17- 9-5	1	12	1	0
Total Gypsy			23	17,198	20	14,769
Independent	Bruner	10- 9-5	3	1,205	3	408
Indep.	Gaines	11- 9-5	2	11,140	2	10,130
Indep.	Knappen	8- 9-5	3	2,080	3	1,665
Indep.	O'Dell	4- 9-5	4	3,050	4	4,480
Indep.	Sullivan	10- 9-5	4	5,076	4	6,560
Total Independent			16	22,471	16	23,243
Interocean	Payne	12- 9-5	1	40	1	80
Magnolia	Bryant	9- 9-5	4	1,770	4	1,138
Magnolia	Cowden	4- 9-5	2	724	2	472
Magnolia	Edmundson	3- 9-5	2	1,721	2	1,330
Magnolia	Holmsley	11- 9-5	5	7,857	5	8,243
Magnolia	Ingram	10- 9-5	1	70	1	43
Magnolia	Lena	10- 9-5	3	387	3	65
Magnolia	Seay	12- 9-5	4	2,443	4	2,361
Magnolia	Simpson	10- 9-5	4	460	4	79
Magnolia	Sparks	11- 9-5	6	5,116	6	5,201
Total Magnolia			31	20,548	31	18,932
Mid-Continent	McCumber	9- 9-5	6	2,595	6	3,195
Mid-Kansas	Anderson	14- 9-5	1	0	1	0
Phillips	Dunnaway	15- 9-5	1	30	1	32
Phillips	Graham	9- 9-5	6	1,392	6	1,497
Total Phillips			7	1,422	7	1,529
Prairie	Baker	24- 9-5	1	50	1	50
Prairie	Davis	13- 9-5	3	2,740	3	2,425
Prairie	C. Graham	3- 9-5	2	3,345	2	5,600
Prairie	O. Graham	10- 9-5	4	7,345	4	8,205
Prairie	Stidham	11- 9-5	9	14,240	9	16,005
Total Prairie			19	27,720	19	32,285
Roxana	Hearn	13- 9-5	1	36	1	45
Roxana	Bayliss	17- 9-5	1	29	0	0
Roxana	Spencer	12- 9-5	2	3,751	2	4,280
Total Roxana			4	3,816	3	4,325
Sinclair	Foreman		1	15	1	0
Sinclair	Hollins	12- 9-5	3	3,825	3	3,410
Total Sinclair			4	3,840	4	3,410
Skelly	Anderson	2- 9-5	1	100	1	165
Skelly	Spencer	12- 9-5	2	1,481	2	4,479
Total Skelly			3	1,581	3	4,644
Texas	Brown	10- 9-5	4	3,150	3	35
Texas	Rodgers	5- 9-5	1	6,070	1	7,050
Texas	Wilmont	10- 9-5	4	45	1	247
Total Texas			9	9,265	5	7,332
Tidal	Watkins	9- 9-5	4	1,480	4	1,540
Twin State	Barker	12- 9-5	1	2,160	1	2,150
Twin State	Hearn	2- 9-5	1	2,100	1	2,315
Total Twin State			2	4,260	2	4,465
TOTAL EARLSBORO			197	167,498	187	169,860
TOTAL SEARIGHT			57	31,532	55	31,140
TOTAL SEMINOLE PROPER			323	73,717	319	73,106
GRAND TOTAL SEMINOLE DISTRICT			827	450,843	799	427,920
Avg. Per Well						546.47 Bbls.

vations are about the same.

The Gypsy has another test which appears to be on the point of telling something of the possibilities of the pool to the northeast. This is the No. 1 Campbell (on an accompanying map as Wadsworth) in the SW NW SE of 36-8-6. It also is about a half mile from the discovery. Top of the Viola lime, horizon overlying the Simpson formation, which in turn is immediately above the Wilcox, was found at 4322 feet and 6-inch was set at 4330 feet. This is the lowest well on the Viola to date.

The Amerada Petroleum Corp.'s No. 1 Nitey, NE SE NE of 2-7-6, is a failure in the upper Wilcox, although



Map of the Little River field as of Sept. 24, showing discovery, extreme northwest of 1-7-6 and failure of Gypsy Oil Co. in 35-8-6. Amerada's No. 1 in 2-7-6 is also a failure in the upper Wilcox

it did make a little oil. One of the highest wells structurally in the field, it got water in the upper, or first Wilcox, at 4062-4114 and is being deepened. It is two locations diagonally southwest of the discovery.

The other well which disappointed the owners, two weeks ago, the No. 1 Wadsworth of the Mid-Continent Petroleum Corp. was put on air during the week. It is a direct offset north of the discovery. Sept. 18, the day it was put on air, it made 390 barrels of oil, this representing a part day's production and on the following day it made 800 barrels of oil and 150 barrels water.

One producer was completed this week. This was the Producers & Refiners Corp.'s No. 1 Dungan, SE NW SE of 35-8-6. At two feet in sand topped at 41-74 feet it made 1827 barrels the first 17 hours. It was deepened three feet and made 2610 barrels in 26 hours.

A half dozen completions are due in the field, several of them being far enough away from the discovery to give a line on the extent and trend of future production. Until these points are cleared no new work is being started. In fact, if Little River proves to be a pool of about the dimensions of Searight, say, the tone of things will be considerably better, as it represents the only spot where a whirlwind campaign is going on or likely to start soon. Down in 22 and 23-7-6, mentioned last week as a possible area of development should a test being drilled by the Independent Oil & Gas Co. be successful, it is reported that this company will merely drill to the top of the sand and shut down. This test is in Sec. 23 and three-fourths of a mile away, in Sec. 22, the Barnsdall Oil Co. has one that is shut down with oil standing in the hole.

Around a fence corner in 1-9-5 an attempt has been under way to move the limits of Earlsboro northward. Four offsets were started and two of them do not look pleasing right now. Red Bank Oil Co., in the cSW NW NE of 1-9-5, has 3500 feet of water in the hole from the Hunton lime,

Completions in Oklahoma and Kansas, Week Ended September 24, 1927

OKLAHOMA

Caddo County

Company	Well No.	Location	Depth	Init. Prod.
Moran et al	1	SWc SE NE 5-5-9 W	1840-2382	30

Creek County

Company	Well No.	Location	Depth	Init. Prod.
Cole	3	NWc SE SE 13-17-10	2405-2441	25
Ted Ray	7	CWL SE SW 13-17-10	2433-2494	20
Magnolia	30	NEc SW NW NW 16-18-7	2430-2580	15
Reichard et al	1	NWc SE 14-19-7	T.D. 3362	Dry
Alvard-West	1	NWc NE SW 30-18-9	T.D. 2704	Dry
Dixie Drlg	2	CSL SW NE 31-18-11	T.D. 1927	Dry
McCulloch	4	SEc NW SE 13-17-10	T.D. 2507	Dry
McCulloch	5	NWc SW SE 13-17-10	T.D. 2915	Dry

Garfield County

Company	Well No.	Location	Depth	Init. Prod.
Knox	5	SEc SW NE 26-22-4 W	1750-1760	165

Grady County

Company	Well No.	Location	Depth	Init. Prod.
Stogner et al	3	SEc NW 35-5-8 W	2129-2391	42M
Garvin	2	NWc SW SW 16-4-6 W	1863-1870	21M
Magnolia	3	NEc NW NW 34-3-5	T.D. 2660	Dry

Grant County

Company	Well No.	Location	Depth	Init. Prod.
Miller et al	1	SEc SW 28-27-6 W	T.D. 4515	Dry

McIntosh County

Company	Well No.	Location	Depth	Init. Prod.
Tiger Mtn	1	CWL SW SW 16-11-14 E	956-1033	2M
Tiger Mtn	1	CEL SE SE 17-11-14	1486-1500	3M

Muskogee County

Company	Well No.	Location	Depth	Init. Prod.
Bradley	6	SEc NW NW SW 5-14-19	704- 721	50
Williams	1	NEc NW SE 20-15-17	T.D. 1686	Dry

Okfuskee County

Company	Well No.	Location	Depth	Init. Prod.
Riverland	1	NEc SW 33-11-11	T.D. 3788	Dry

Okmulgee County

Company	Well No.	Location	Depth	Init. Prod.
Roberts	3	CWL SE SE 16-15-11	T.D. 2121	Dry
Wallace	2	C NE NW 14-14-14	T.D. 1809	Dry
Powell	5	NWc SW NW 9-14-15	T.D. 2224	Dry
Johnson et al	1	SWc NW NE 34-14-12	T.D. 2114	9M
Kirkland	1	NEc SE NE SW 17-15-13 E	1384-1415	25

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Skelly	8	NEc NW SW 27-27-6 E	T.D. 3021	Dry
I. T. I. O.	94	NEc SW SE SW 35-27-10	T.D. 2121	Dry
I. T. I. O.	300	SEc NE 2-25-11	T.D. 2060 OWD	Dry
S. S. Home	104	NWc SW 28-20-10	T.D. 2956	Dry
S. S. Home	106	C NE SW 29-20-11	T.D. 2024	Dry

Pawnee County

Company	Well No.	Location	Depth	Init. Prod.
Ora Steen	1	NEc SE NW 9-20-7	T.D. 2589	2M

Pontotoc County

Company	Well No.	Location	Depth	Init. Prod.
Ada	7	SWc SE NW NE 6-3-7 E	T.D. 430	Dry

Pottawatomie County

Company	Well No.	Location	Depth	Init. Prod.
Mid-Cont	7	SWc NE SW 9-9-5 E	4423-4432	370
Tidal	6	SEc NE NW 9-9-5	4290-4313	200
Continental	2	SEc NE SW 19-7-4 E	3746-3810	2020
Pierce	1	NWc NE NE 30-7-4	3749-4095	11M
Magnolia	1	NWc SE 19-7-5	3979-4035	65
Gypsy	1	SWc NW 4-9-5	T.D. 4595	Dry

Seminole County

Company	Well No.	Location	Depth	Init. Prod.
Empire	4	SWc NW NE 34-9-6	T.D. 4557	Dry
Texas	3	NEc NW NW 2-8-6	T.D. 4463	Dry
Amerada	1	NWc NW 15-9-5	T.D. 4461	Dry
Barnsdall	2	NWc NE NE 15-9-5	T.D. 4370	Dry
Jones	11	NWc NE 14-8-6	T.D. 4315	Dry
Gypsy	1	NEc 20-7-7	T.D. 4737	Dry
Prairie	9	NWc NW SE 33-10-6	T.D. 2750	Dry
Prairie	2	NEc NE SW 33-10-6	T.D. 2712	Dry
Prairie	2	NEc NW SW 36-9-6	T.D. 4237	Dry
Prairie	4	NEc SE NE 11-9-5	4333-4347	2000
Prairie	7	NWc SE NE 11-9-5	4356-4375	1940
Prairie	4	SEc NW NW 10-9-5	4270-4276	1400
Texas	5	NEc NW 4-10-8	4105-4147	100
Barnsdall	3	SWc NE NW 10-9-5	4275-4301	1658
Barnsdall	2	NWc SE SE 10-9-5	4396-4402	307
Texas	2	NEc SE 10-9-5	3544-3600 OWD	90
Gypsy	6	SWc NW NW 11-9-5	4360-4373	3830
Carter	3	NEc NW SE 12-9-5	4297-4304	1645
Wilcox	4	SWc NW NE 4-9-6	4338-4408	510
Carter	1	SEc 15-9-6	4215-4238	640
Carter	2	NWc SE SE 34-9-6	4117	10
Slick	1	NWc NE NW 1-8-6	4134-4150	115
McCulloch	3	SWc NW NW 22-8-6	4395-4401	455
Carter	12	SWc NE 23-8-6	4220-4245	1325
Blackwell	6	SWc NE SE 35-8-6	4124-4126	4591
Mid-Cont	2	SEc SW SW 36-8-6	4301-4305	3865
I. T. I. O.	1	NWc SW NW 1-7-6	4194-4195	2964
I. T. I. O.	1	SEc NW NW 1-7-6	4159-T.D.	3298
I. T. I. O.	2	SEc NE NE 2-7-6	4121-4122	5154

Stephens County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	5	CNL NE SE 32-1-8 W	2388-2394 OWD	3M
Magnolia	3	CNL NW NE 29-1-9 W	2188-2193	1M
Skelly	1	NEc SE 24-1-4 W	2570-2945	200
Magnolia	3	SWc NW SW 32-1-5 W	T.D. 2785	Dry
Skelly	2	SWc NE SE 24-1-4 W	T.D. 3448	Dry

Tulsa County

Company	Well No.	Location	Depth	Init. Prod.
Glidden	1	SWc NW NE 34-19-13	T.D. 1463	Dry

Wagoner County

Company	Well No.	Location	Depth	Init. Prod.
Williams	1	SWc SW 6-18-18 E	T.D. 244	Dry
Carhart et al	1	NEc SE 17-17-15	T.D. 1320	Dry
Williams	2	NWc NE NE 12-18-17	T.D. 283	Dry

KANSAS

Butler County

Company	Well No.	Location	Depth	Init. Prod.
Bacon et al	1	NWc NE 2-27-6 E	T.D. 2744	Dry

Clark County

Company	Well No.	Location	Depth	Init. Prod.
Watchorn	1	NWc NE NW 21-32-21 W	T.D. 4290	Dry

Cowley County

Company	Well No.	Location	Depth	Init. Prod.
Furgurson et al	1	SEc SW 28-30-8 E	T.D. 3425	Dry
Roth-Faurot	1	SWc NW 36-33-4 E	T.D. 3604	Dry

Greenwood County

Company	Well No.	Location	Depth	Init. Prod.
Empire	16	NWc NE NW 23-22-11 E	1868-1896	200
Polhamus et al	1	NEc SW 26-24-9 E	2122-2136	20
Cross et al	2	CN1 NE SE 36-24-12 E	1572-1631	100
Roth-Faurot	3	NEc NW NE 13-25-8 E	2376-2394	25
Rogers-Ballard	1	SEc 34-25-10 E	1964-1979	75
Murphy et al	1	C NE Blk 14-2-26-10 E	1971-1982	100
Henderson-Holdren	1	SEc SW 10-22-11 E	T.D. 1930	Dry
Empire	2	NWc SW SE 24-22-12 E	T.D. 2222	Dry

Osage County

Company	Well No.	Location	Depth	Init. Prod.
Stark et al	1	SEc SW 33-17-14 E	T.D. 1847	Dry
McBride et al	1	C SE SW 30-17-15 E	T.D. 2204	Dry

Rooks County

Company	Well No.	Location	Depth	Init. Prod.
Livingston et al	1	SWc SE 11-9-16 W	3228-3251	50

Summer County

Company	Well No.	Location	Depth	Init. Prod.
Roxana-Cuatro	1	Lot 9 Blk 34-11-32-2 E	2080-2169	50
La Rob	1	Midland rw, 14-32-2 E	1993-2100½	1000
Sharp et al	1	Lot 16 Blk. 40-14-32-2 E	2105-2158	30

topped at 4276 feet. Philmack Oil Co., in the cSE NE NW of the same section, got a hole full of water from the Wilcox at 4333-50 feet. Barnsdall Oil Co.'s test, in this little play, in the NE SE NW of 1-9-5, is below 4,000 feet and the Gypsy Oil Co.'s test in the NW SW NE of 1-9-5, has reached 4,200 feet. Immediately south in the same section there are two Earlsboro sand producers, but it looks like a bad bet for the Wilcox.

The much discussed wildcat of T. B. Slick in 1-6-6, which is six miles south of Little River pool, got into the news again when it drilled into the second Wilcox pay at 4056 feet. It was drilled to total depth of 4080 feet and shut down with 2000 feet of salt and sulfur water in the hole. One by one, the outstanding wildcats which caused the Mid-Continent industry to have the shakes whenever they were mentioned, are being killed.

Further evidence of the probable smallness of the pool opened east of Garber earlier in the year by the Marland Oil Co. was supplied by the Skelly Oil Co.'s test in the SE NW of 19-23N-3W. It has first oil at 5400-12 in the Wilcox and from 5412-16, cable measurement, sprayed about two barrels an hour. Steel line measurement gives the total depth as 5433½ feet. This is a direct north offset to the Marland Oil Co.'s No. 1 Whipple, a recent completion, which had initial production of 90 barrels per hour from 5291-5305 feet.

Drilling Operations in Oklahoma, Kansas and Texas, Week Ended September 24, 1927

	Sept. 24 Week Ended					Sept. 17 Week Ended				
	Loc.	Rigs	Drg.	S.D.	Total	Loc.	Rigs	Drg.	S.D.	Total
OKLAHOMA										
Burbank	..	3	9	9	21	..	2	10	9	21
Other Osage	7	6	14	3	30	8	6	12	4	30
Bristow-Cushing	7	4	33	7	51	2	3	34	7	46
North Oklahoma	7	10	54	44	115	8	10	49	48	115
South Oklahoma	9	16	115	41	181	10	16	112	45	183
Muskogee	..	4	35	13	52	..	2	34	14	50
Okmulgee-Bristow	7	44	55	20	126	9	37	59	19	124
Tonkawa	..	..	5	1	6	..	..	5	2	7
Seminole Dist	24	27	491	41	583	26	29	510	39	604
Total Oklahoma	61	114	811	179	1,165	63	105	825	187	1,180
KANSAS	26	55	105	59	255	26	56	120	68	270
TEXAS										
Central		101	189	138	428	..	109	198	130	437
East		No Report					No Report			
Panhandle	..	72	100	102	274	..	78	99	103	280
N. Central	..	34	74	42	150	..	34	86	33	153
West	..	105	175	98	378	..	102	166	97	365
Laredo	..	1	25	19	45	..	1	25	19	45
Total Texas	..	313	563	399	1,275	..	324	574	382	1,280
GRAND TOTAL	87	482	1,479	647	2,695	89	485	1,519	637	2,730

Success of Pecos Prorating Plan Will Aid Water Situation

By Paul Wagner
N. P. N. STAFF WRITER

HOUSTON, Sept. 23,

APPEARANCE of bottom-hole water in east edge wells in the Yates field[1] has made more desirable than ever the success of the crude oil prorating plan agreed on by Pecos county producers.[2] The ratable taking out of limited quantities of crude, instead of producing indiscriminately under open flow conditions, will serve to keep back pressure on the field and prevent rapid incursions of water to higher parts of the structure.

An effect of the present water showing will be to scale downward materially Yates field estimates of daily average potential production which, uncontrolled, had been placed at various levels from 320,000 to 500,000 barrels. It will not serve to lessen ultimate recoveries from the field, however; as the water drive back of the oil will flush the pay reservoirs and bring about more nearly a full recovery of the crude underground than would have been the case were the field pressure other than hydrostatic.

Fear has been expressed in some quarters that the proving of the existence of a hydrostatic water head back of the oil in the Yates field threatens the success of the prorating plan. It is a fact that operators owning leaseholds down the dip of the structure, in proximity to the water table, will find their properties quickly flooded when the field is opened up and exploited at the maximum of its capabilities.

They can stave off encroachment and delay the necessity for dehydrating crude, however, by the kind of field co-operation that prevents as long as possible the rise of the water table from its present level down the dip of the structure.

Inroads of water, at the end of the present week, had resulted in the shutting-in of a fourth well and the virtual delimiting of the field's producing area to the west side of the Pecos river in the county of the same name.

The hydrostatic character of the pressure back of the oil in the field was shown clearly when the Gulf Production Co.'s Thompson big well, in the southwest corner of sec. 71, Crockett county, began making upwards of 30 per cent water, Sept. 19.

Almost immediately the riverbed well of Allsman & Bell, for which the Gulf completion was an offset began making four per cent water while flowing about 175 barrels daily. Later, the A-1 well of Marland Oil Co. of Texas, in the northeast corner of sec. 60, I&GN block 1, Pecos county, showed seven per cent water; and then the B-3 well of the Mid-Kansas & Transcontinental partnership, in the southeast corner of sec. 61, was shut in after showing four per cent water.[3]

Together, the four affected wells had been rated, on the basis of maximum initial production estimates, as good for more than 25,000 barrels of crude petroleum daily. They were actually being exploited at the time water appeared at 30 barrels an hour, or less, in line with outlet facilities.

THE Gulf's Thompson well, which extended the field to the Crockett county side of the Pecos river, tested 750 barrels an hour at 987 feet when first completed; the Mid-Kansas & Transcontinental B-3 made 430 barrels in its first hour, late in August, and the Marland A-1 showed similar open flow possibilities.

All these wells, which were located in a group about 277 feet lower on the sub-surface structure than the average of other completions in the Yates field, had been due to feel the first effect of water incursions, when, if and as they appeared. The fact that they had not shown water previously and that they had produced such great quantities of oil on short period tests prevented Yates field operators from forming dependable conclusions about the extent of the structure until now.

Yates field operators long had suspected, as previously pointed out in this periodical, that hydrostatic pressure governed the highly flush showings made in production tests; but they had no way of measuring the point on the sub-surface dip of the structure where the water table might be expected to be found.

As the water table rises it will push ahead of it toward the high parts of the structure the oil accumulated in the underground reservoirs in manner similar to the hydrostatic pressure affecting production in the South fields of Mexico and in some respects similar to the encroachment up-dip in areas such as found in the Mexia-Powell fault zone of east Texas.

Even after water appears in individual wells large quantities of oil will be produced by stripping and dehydrating methods, which, however, will call for field installations to take care of such conditions. Wells high on the structure will not be affected by water immediately unless exploited under conditions inducing the "coning" of water, such as unrestrained flow.

In either event maximum recoveries from the field as a whole may be anticipated, because of the flushing character of the water drive back of the oil; and when the final history of the field is written it may be expected to take its place along with other similar development areas where the only petroleum left underground is that trapped off by water in small irregularities in the underground structure where, so to speak, the oil has been by-passed.

PLANS were being carried forward through the week for the carrying out of the prorating agreement reached at recent Fort Worth meetings. Production tests of wells in the main part of the field were to be used as guides for the amount of oil to be taken from various leases and wells under the plan to provide market outlets for 44,000 barrels through the Humble and Illinois pipeline facilities, beginning Oct. 1, next.

Humble made its first crude oil runs this week through its new 40,000 barrel pipeline from Kemper station, Reagan county, to Ingleside, on the Gulf Coast near Corpus Christi, and was going ahead with work of looping the system so as to provide outlet for 50,000 barrels daily. Reports of the Humble's looping work are credited with causing the erroneous report to gain currency in Texas that it was doubling its west Texas system to Ingleside.

LOS ANGELES—Louis Chappuis, for several years with the United Oil Co. in charge of exploration work, and later with the Richfield Oil Co., when the two companies merged, has resigned and will engage in consulting geological work with offices in Los Angeles.

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[1]Page 342, Sept. 21, 1927 issue, NATIONAL PETROLEUM NEWS.
[2]Page 22, Sept. 14, 1927 issue.
[3]See map, Page 20, Aug. 17, 1927 issue.

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Auto Market Enters Autumn Lull

CLEVELAND, Sept. 23.—Passenger car and truck production in August totaled 303,040 in the United States, compared with 422,294 in August, 1926, according to the Department of Commerce. This was a decline of 28.1 per cent. August, 1927, output, however, was 39,801 vehicles more than July output, a gain of 15.1 per cent. The increase was due mainly to the introduction of 1928 models by several manufacturers.

The fall in production between August, 1926, and August, 1927, can be attributed to the shutdown in the Ford factories while a new car is being tooled. When Ford will get into production is yet a moot question. It is now reported that production will not begin until late in October and it may be well toward the first of 1928 before dealers are supplied with demonstrators and deliveries to customers can begin.

The new Ford car is blamed for the decline in sales of some other cars near the expected Ford price field. If such is the case it may be regarded as retributive justice. Last spring rumors that Ford would introduce a new car early in the summer cut off his sales considerably.

Until the end of August passenger car and truck production in the United States totaled 2,593,154 compared with 3,082,569 in the first eight months of 1926. This year's production is 18.8 per cent less.

Registrations of new cars in the United States in the first six months of 1927 totaled 1,520,366, compared with 1,732,545 in the first half of 1926. This was a decline of 12.2 per cent.

The Department of Commerce output figures for this year and last follow:

UNITED STATES
PASSENGER CARS AND TRUCKS

	1927	1926
January	234,231	300,612
February	298,765	354,432
March	386,841	422,728
April	397,780	430,523
May	395,674	417,214
June	312,584	380,372
July	263,239	354,394
August	303,040	422,294
September	.....	393,357
October	.....	329,142
November	.....	250,950
December	.....	163,431
Total	2,593,154	4,219,449

PASSENGER CARS

January	196,989	272,922
February	260,644	319,763
March	341,676	381,116
April	353,223	383,907
May	352,428	373,140
June	273,718	339,570
July	233,384	317,006
August	271,325	380,282
September	.....	350,923
October	.....	289,565
November	.....	219,504
December	.....	137,361
Total	2,283,387	3,765,059

TRUCKS

January	37,242	27,690
February	38,121	34,669
March	45,165	41,612
April	44,557	46,616
May	43,346	44,074
June	39,866	40,802
July	29,855	37,388
August	31,715	42,012
Septmeber	.....	42,434
October	.....	39,577
November	.....	31,446
December	.....	26,070
Total	309,767	454,390

Officials and Workmen Meet and Dine

Staff Special

CHICAGO, Sept. 27.—The ninth annual meeting and dinner of the Industrial Relations Plan of the Standard Oil Co. of Indiana was held at the Congress Hotel, Chicago, Sept. 26. Covers were laid for 131. The guests consisted of an equal number of employees and management representatives from the company's six refineries and the home office in Chicago.

The morning session was devoted to receiving and discussing reports from the joint general committees, represented respectively by H. Earl Courtney, oil inspector of Casper, Wyo.; J. R. Douglas, stillman of Greybull, Wyo.; E. L. Wood, car loader of Laramie, Wyo.; Kenneth F. Jaques, stenographer of Sugar Creek, Mo.; Harry Wheeler, helper of Whiting, Ind.; William W. Shawmaker, employment manager of Wood River, Ill., and L. E. Harmon, assistant auditor of the manufacturing department, in the Chicago office.

Seven scheduled addresses were delivered in the afternoon as follows:

"Basing promotions upon seniority rights," by R. A. Rowlands, combustion engineer of Casper.

"Principles of fair dealing between management and employees," by A. W. Stricker, shift foreman of Greybull.

"Education of employees on Standard Oil products," by H. M. Gray, watchman of Laramie.

"The value of a booster club in the manufacturing department as an aid to sales," by L. C. Howard, fire marshall of Sugar Creek.

"Additional methods for assisting sick or injured employees," by Sam Hefter, pipe fitter of Whiting.

"Option A of the Stock Purchase Plan and its affect on length of service," by A. F. Heuer, crude still helper of Wood River.

"Co-operation among individuals and departments," by R. F. Thorstenson, head of the billing division, Chicago.

Sixty officials and heads of departments from the Chicago office were present at the dinner at 6:30 in the evening besides the delegates from the refineries. C. L. Rose, an electrician from Casper was toastmaster. R. W. Stewart, chairman of the board of directors and E. G. Seubert, president of the company both made talks.

Curtailment at Little River Will Operate on Percentage Basis

Staff Special
TULSA, Sept. 24

AFTER almost a full week of discussion, by large and small groups, another modification of the Little River production curtailment order of the Oklahoma Corporation Commission was asked by the operators. This came about because the Blackwell Oil & Gas Co. opened to full production its three wells on the Nitey lease in 35-8-6. The Blackwell did this the night of Sept. 19 and a day later everybody followed suit.

The new style in proration is embodied in the following resolution, adopted in a general meeting of the entire Seminole area Sept. 23.

"Resolved that, effective today and ending Oct. 5, 1927, all producing wells in the Little River district be curtailed 25 per cent or more, but not more than 50 per cent, if necessary to hold the total production of the Greater Seminole area to 450,000 barrels per day. The proration herein provided for shall be determined in the same manner as heretofore pursued in the Greater Seminole area."

The first order on this field fixed production at 100 barrels a well. A royalty owner started court action. Then the commission was asked to raise the limit to 1,000 barrels, which was done.

The commission spent considerable time this week in finding out what, if anything, could be done to the Blackwell company for ceasing to respect the order. The commissioners and the operators who were conferring with them found themselves in an alley whose other end had a barbed wire fence that stopped all progress. The state law, it was found, provided for proration only on a percentage basis and the order providing for a definite and fixed amount was not enforceable. Therefore, the change to percentage basis is being made.

The plan at this writing is to start Monday with a general cut of 25 per cent on each well. There was also a decision made on deepening. Each operator will be permitted to deepen one well on a lease at a time, but the excess production of the well over the amount permitted will have to be made up by the operator.

Another meeting has been called for Oct. 3 to decide what to do after Oct. 5, when the present agreement-order terminates.

The supreme court got into the discussion this week. This was on the suit brought by the royalty owner, C. L. Moss, who obtained an injunction two weeks ago against the Indian Territory Illuminating Oil Co., the corporation commission and the umpire, which would make them open to full production one of the wells. The Seminole district court then dissolved his injunction but permitted the litigant to file supersedeas bond of $1,000 for his appeal to the supreme court. This had the effect of restoring the original court order. The supreme court was asked by the corporation commission to set aside this bond. It did so and the thing now becomes a moot question, with the commission's order in force.

That the production curtailment in Little River was really curtailing is shown by the following figures, beginning with the 24-hour period ended at 7 a. m. Sept. 20. The night of Sept. 19 was when the Blackwell opened its wells. For several days before, the field had been making 12,000 to 13,000 barrels daily. Runs Sept. 20, 21, 22 and 23 were as follows:

Company	Lease	No. Wells	Sept. 20	Sept. 21	Sept. 22	Sept. 23
Amerada	Nitey	1	.....	.....	.....	.....
Blackwell	Nitey	3	7,881	12,759	10,802	9,527
I. T. I. O.	Dungan	1	963	2,325	2,814	2,684
I. T. I. O.	M. A. House	1	1,251	3,416	3,241	3,827
I. T. I. O.	W. E. House	1	1,216	2,207	2,295	839
I. T. I. O.	Jackson	1	1,195	2,513	2,722	2,964
I. T. I. O.	Nitey	2	2,389	5,988	4,444	8,537
I. T. I. O.	Reed	1	1,204	1,651	1,231	1,358
Mid-Continent	Wadsworth	2	1,910	2,872	3,035	3,000
Producers & Refiners	Dungan	1	1,827	2,680	3,045	3,162
		14	19,866	36,411	37,809	35,898

It is shown that the I. T. I. O.'s W. E. House well dropped sharply between Sept. 22 and 23. This is the discovery well of the field. It went dead the 22nd, producing 839 barrels of oil and 105 barrels of water that date.

LOS ANGELES—L. L. Hillman and C. T. Long have opened offices in the Petroleum Securities Bldg., Los Angeles, to engage in the land and lease business. Mr. Hillman recently resigned as assistant manager of the land and lease department of the Standard of California, and Mr. Long resigned his position of assistant manager of the production department with the same company at Whittier.

TULSA, Sept. 26.—The Western Petroleum Refiners Association has elected T. P. Eason of the Bolene Refining Co., Enid, Okla., and I. H. Patton, Jr., of the Western Oil Corp., Tulsa, to the board of directors. Mr. Eason succeeds V. E. Bolene, formerly of the same company, and Mr. Patton will serve in the place of W. K. Campbell.

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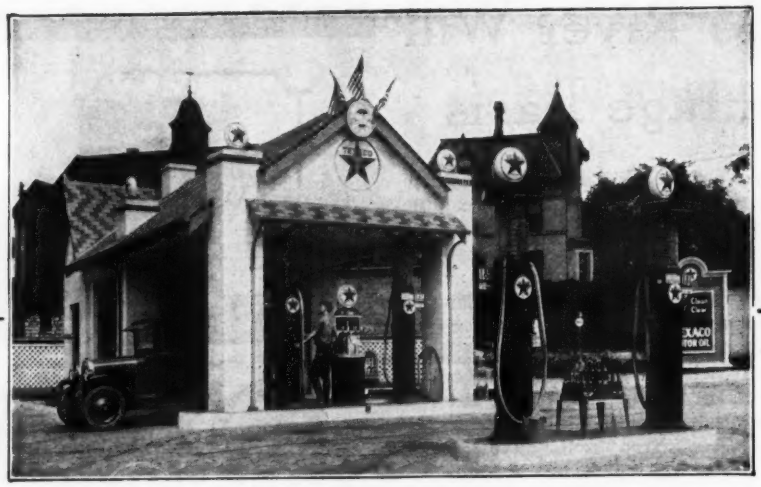

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14 Yates Wells Fill 55 Tanks in 2 Days

HOUSTON, Sept. 25.—The 14 wells of the Mid-Kansas and Trans-Continental partnership in the Yates field of Pecos county were opened 48 hours last week, and filled one steel storage tank of 55,000 barrels capacity in that time. It is reported from the field that the wells were not allowed to make their open flow possible production but that they were not pinched radically.

An average of approximately 2,000 barrels a well daily for the 14 completions indicates that with all of them open the pressure back of the oil was fairly evenly distributed and that the test gives a reasonable indication of the quantity of oil that may be safely exploited without danger of water encroachment into the higher parts of the structure.

It is denied from the field that the B-3 well of the Mid-Kansas and Transcontinental has shown water as previously reported, but in any event it is near the east edge of the structure where others were shut in because of encroachment.

Golf Winners Announced By Illinois Jobbers

SPRINGFIELD, Ill., Sept. 26.—Winners of the golf tournament in which 42 oil marketers, jobbers and equipment men participated during the Sept. 15 meeting of the Illinois Petroleum Marketers Association, at the Soengetaha country club at Galesburg, were:

Low gross, M. C. Hill, 87; low gross, F. D. Chapman, 22; low net, H. Davis, 70; low net, Barney Majewski, 75. Largest number of pars, E. W. Grimm; greatest number of birdies, H. Jensen.

Prizes of golf clubs, balls and other golf equipment were awarded to the winners.

Another sport event of the day was the baseball game between the oil jobbers and the equipment and associate members. Russel Hanson managed the oil team while Jack Slonecker was manager for the equipment men. Bob Peoples, star hurler for the oil jobbers, not accustomed to a 17-inning game, collapsed from the heat. He was taken to the Galesburg hospital where he has been improving.

One of the features of the day was the "petroleum" dinner, on which was served such rare delicacies as "bright stock on sponge grease", "Muench salad with one thousand stations", "gauge sticks", "crank case draining", and "roller bearings and cup grease". Coffee probably came under the disguise of "wrapped transmission grease (a la paraffin)".

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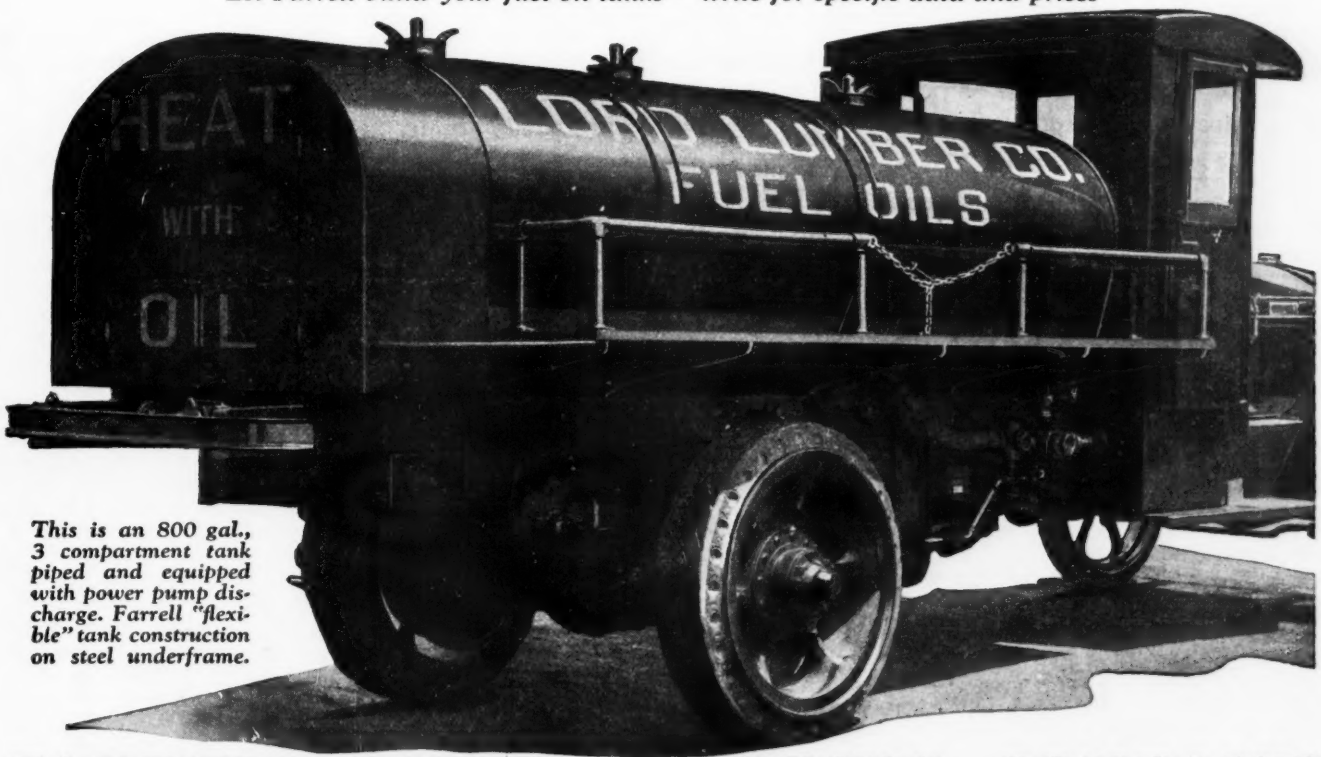

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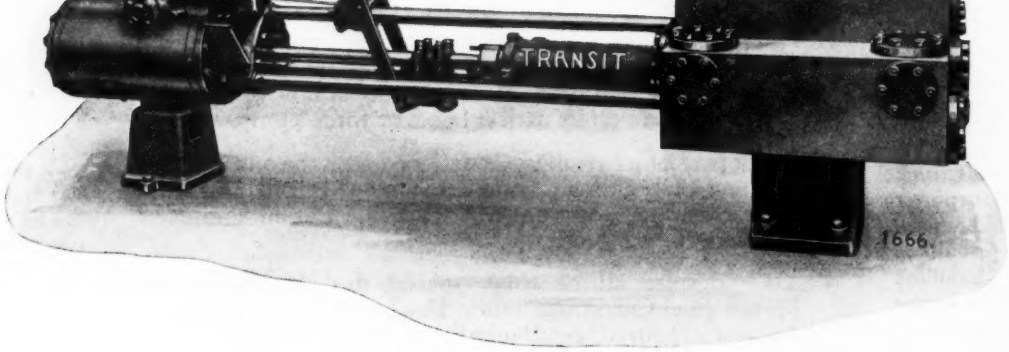

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Treating Pressure Distillates

By T. T. Gray

THE changes brought about in the petroleum industry by the advent of cracking and its development to a predominating position in the production of gasoline cannot as yet be entirely realized, as there is constant improvement going on from both the engineering and chemical points of view.

From the engineering end many changes are taking place which appeal to the lay and technical imagination by virtue of the tremendous magnitude of the forces which man is controlling as well as the magnitude of the equipment necessary. Progress along chemical lines, however, is not as obvious to the onlooker. Even with the days in which refining processing was very jealously guarded, a thing of the past, it is difficult for one not directly in the field to keep track of the changes that are wrought in rapid succession in the refining of cracked products.

Since refining in this sense means the conversion of the raw cracked gasoline into a substance suitable for marketing, it would be well first to consider why the product needs refining at all, then how much refining is ordinarily necessary, and finally, what methods have been proposed and adopted to achieve the desired purpose. Detailed discussion will be confined to the methods which are in commercial use; but others, of interest because of their theoretical background, will be mentioned briefly.

It should be realized that even today most refiners, although willing to allow the broad outlines of their treating methods to become public, are still careful of data concerning yields, costs, losses and the like. Such information as given in this paper is, of course, limited in its scope to the available sources, but it is believed to be accurate and representative of average conditions throughout the industry.

Products of the early cracking stills were little more than scientific curiosities. The demand for gasoline was small and could be taken care of by straight run products, which made it all the more reasonable that the evil smelling, unstable, gum forming gasoline produced by cracking should be regarded with suspicion.

Early efforts in refining these products were limited to making them resemble their straight run analogs as closely as possible. It was found that treatment with sulfuric acid not differing greatly in nature from the acid treatment which had previously been resorted to, for the refining of even the lighter products of the more refractory crudes, although considerably more drastic, if properly handled both in the treating and subsequent redistillation, produced a gasoline of improved color stability and odor which could be blended in small amounts with straight run products without arousing the ire or even the notice of the casual consumer.

HERE is an interesting sidelight on the accompanying discussion of treatment of pressure distillates. Mr. Gray, who has spent many years in studying the subject was invited to contribute an article for the Special Engineering Issue of NATIONAL PETROLEUM NEWS, *published Sept. 21. He is head of the Gray Processes Corp.*

He consented to do the work and had blocked out the article when he was suddenly stricken with pneumonia. He spent some time in the hospital and by the time he had sufficiently recovered to complete the article, it was too late to get it into the Special Engineering Issue.

We are sorry for that but glad that Mr. Gray has now recovered his health and we are glad to pass on to our readers this complete and valuable treatise on treating of cracked distillates.

Chemically it was found very early that cracked gasoline differed from straight run chiefly in its unsaturation, as expressed by its absorption of sulfuric acid and its power to absorb bromine or iodine. It was, therefore, at first thought that refining methods should be used which would decrease this unsaturation.

To this end can be ascribed the use of large quantities of sulfuric acid, and numbers of processes intended to hydrogenate the cracked products. It was later found, however, that high unsaturation far from being harmful was in many respects very desirable. Not only did the higher specific gravity of unsaturated gasoline mean more pounds, and hence more power, per gallon, thus vitiating the importance of low specific gravity, but it developed that unsaturation greatly decreased the detonating characteristics of the motor fuel. This resulted in a change of attitude toward cracked gasoline which is comparatively recent and is, in fact, not yet entirely shared by the consuming public.

IT CAN be accounted for by the rapid increase in the number of automobiles in use and the consequently increased demand for motor fuel, coupled with the trend toward high speed, high compression motors. The fact remains that due to the unsaturated nature of cracked gasoline it can be used at considerably higher compression ratios than straight run gasoline, resulting in the possibility of greatly improving the efficiency of the motor and consequently the mileage obtainable from a gallon of fuel.

There is no doubt that cracked gasoline as produced cannot be used in automobile motors without some treatment. Thus T. A. Boyd in the Oil & Gas Journal for June 24, 1926, page 148, describes the varnish-like deposit which is caused by improperly refined cracked gasoline and which results in the sticking of throttle valve and intake valves.

It is, however, difficult to determine exactly how much refining is necessary in order to make a product suitable for use as a motor fuel. It is generally held that the gum formation is either caused by diolefines (an extremely unstable type of compound which tends to polymerize into rubber-like material) directly or that the diolefines at least promote the gum formation of other substances, and it is consequently essential that they be removed.

Hydrocarbons which are desirable from the anti-knock standpoint should, however, be left unaffected by whatever refining process is adopted. In addition to paraffins and naphthenes, hydrocarbons which constitute the bulk of straight run gasolines, and the diolefines, which as we have seen must be removed, cracked gasolines contain greater or lesser amounts of olefines which are desirable anti-knock compounds, and aromatics, which are still better for the purpose.

Exact specifications are a matter of considerable discussion and it is impossible to draw a strict line at any point. Volatility is, of course, the essential characteristic of a gasoline and may be said to be affected by fractionation conditions rather than by refining methods.

THE sulfur content is important, but no agreement can be reached as to what its safe limits are. Whereas some authorities are of the opinion that even the present tolerance of 0.1 or 0.15 per cent is too high, others believe that the sulfur specification could be raised to 0.3 or 0.5 per cent without damaging motors by corrosion. It is believed that ventilating the crank case, a step which has been recently adopted by some motor car manufacturers, will go far toward eliminating any possibility of trouble due to sulfur in the gasoline.

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gasoline from the standpoint of its utility as a motor fuel is the doctor test which, as is well known, is no indication of the amount of sulfur present, and yet is demanded in most cases by jobbers. There are, of course, certain crudes which, due to their mercaptan content, have an extremely disagreeable odor which can be improved by doctor sweetening.

There has been a decided move in recent months to impress the public with the fact that the color of gasoline has nothing to do with its fitness for use and that a yellow gasoline will make at least as good a fuel and in some cases a better one than the same gasoline made colorless. Manufacturers have taken in many cases to dyeing their products, and it is possible to buy gasoline of many hues.

It is, of course, obvious even to the uninitiated that the motor has no taste one way or another so far as color is concerned, and that, all other things being equal, a yellow or purple gasoline will run a car as satisfactorily as a colorless one. There is no gainsaying the fact, however, that the color of raw cracked gasoline is due to impurities which, although they may not themselves seriously affect motor operation, are in the unrefined product accompanied by diolefines and similar substances which do affect the quality of the fuel and that they will in general be removed together with the objectionable compounds by any method of refining which is thorough enough to make an entirely satisfactory motor fuel.

THERE is no reason, therefore, why cracked gasoline which has been refined should be yellow. Here also, of course, the sales element is important. A motorist would rather buy a colorless gasoline whose freedom from visible impurities is clear, than an off-color one, as he knows that in the former case the product has certainly been refined to some extent, whereas in the latter it may not have been refined at all and may contain harmful substances which, not apparent at first, may cause serious damage to his motor if he persists in the use of gasoline containing them.

It is unfortunate that there is no quick test available for determining whether or not a cracked gasoline is sufficiently refined for motor car use. Attempts have been made to arrive at such a test by various modifications of the so-called gum test. These have not, however, been successful, whether run in copper, porcelain or glass dishes in air or in steam ovens, as it has been found that the amount of gum formed in such a test is not comparable with the amount deposited in motor tests of the same fuel.

Indications are that the method of refining must be taken into account in the interpretation of gum tests. We have cases on record where an acid

treated product, although it had a lower gum test in the evaporation method than a similar gasoline refined in the vapor phase, actually deposited considerably more gum in use.

This may be explained by the formation during acid treatment of gum forming substances which are not changed to gum during the evaporation test but are so changed during motor operation.

MANY methods have been suggested for removing the diolefines or objectionable unstable constituents from cracked gasoline, but they may all be described as depending on the greater chemical reactivity of the undesirable substances.

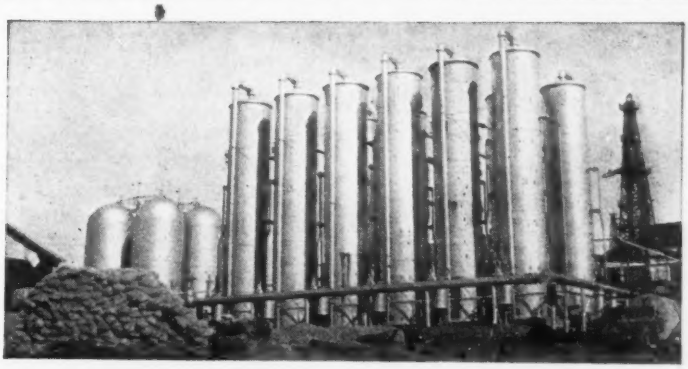
Thus the very fact that renders them unsuitable is a means for their removal from the gasoline. The method in most common use at present is treatment with sulfuric acid, which causes the diolefines and similar substances to polymerize or compound with themselves to form tarry products which are soluble in the acid sludge. The only other process which is used to any considerable extent commercially in this country is the vapor phase refining process in which the polymerization of the diolefines is induced by passing the vapors in contact with a porous adsorptive catalyst such as fuller's earth.

Before discussing these processes in detail it might be worth while to mention briefly other suggested methods of getting hold of and removing the diolefines. A method of Mailhe consists in heating the cracked gasoline with metallic halides which produce a refining effect not very different from the better known effects of aluminum chloride.

The instability of the diolefines under electric and other physical stresses is taken into account by several processes for promoting their polymerization by means of ultra violet rays or a silent electric discharge or exposure to radio-active substances. Methods based on more conventional means for accelerating chemical change rely on subjecting the cracked gasoline to heat and pressure for considerable periods of time. One such process heats in the presence of alkali. These processes in general promote the polymerization of the unstable substances present and rely on a subsequent redistillation to separate the remaining gasoline from the polymers.

A variant of the sulfuric acid process substitutes a treatment with contact clay for the neutralization after the acid treatment. The chief disadvantage of this process, in addition to the volumetric and polymer losses due to the acid, is the loss due to absorption by the clay.

In the discussion of methods of treating cracked products it must be borne in mind that no general pro-



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cedure can be given, since each product is in a class by itself and must be considered individually. It would probably be no exaggeration to say that nine-tenths of all the treating troubles, not only those of pressure products but of petroleum products in general, are due to a lack of consideration of this point and the attempt to treat different products without introducing necessary modifications in the method of treatment. As far as cracked products are concerned it is well known that different cracking processes yield entirely different products as regards ease of refinement.

THE products are more refractory generally as the amount of cracking is increased. The same process will yield a more refractory cracked gasoline from fuel oil than it will from gas oil. Crudes such as Mexican and California introduce still more difficult problems, so that any treating method where not specifically referring to a definite cracking process and a definite charging stock must be viewed with sufficient flexibility to take care of the difference that would be caused by changes in any of the above factors.

Sulfuric acid is applied to pressure distillates usually in the form of 66 degree acid, the concentrated acid of commerce. To a smaller extent weak acid of about 60 degrees or fuming acid is employed. As mentioned above, sulfuric acid causes polymerization of the diolefines to tarry substances which are taken up by the acid sludge.

This, however, is not the full extent of the action of sulfuric acid, as it is capable of a chemical reaction with olefines and aromatics as well as with diolefines, and under certain conditions has been known to affect the paraffins. Its action on the aromatics, although probably not occurring to any large amount under the conditions of treatment, must be considered to take place to some extent, particularly in view of the observed fact that the presence of a reactive group of hydrocarbons often promotes the chemical activity of any otherwise less reactive groups. As regards the olefines, which are present in cracked gasoline to around 20 per cent, sulfuric acid has a two-fold reaction. Part of the olefines combine with the acid, forming esters of sulfuric acid, some of which are soluble in the acid while other esters are formed which remain in solution in the oil layer.

Another part of the olefines is reacted on by the acid, resulting in its polymerization to hydrocarbons of higher boiling point, which also remain in the oil layer. These reactions result in a two-fold loss. First, there is the volumetric loss or shrinkage in volume of the distillate being treated resulting from the solution in the acid layer of certain of the products, and secondly, there is the loss due to the combination and polymerization which is not visible as a volumetric loss because the products are soluble in the oil layer. The extent of these losses differs according to the distillates being treated and the amount of acid used.

All the work done in our laboratory and in the laboratories of refineries to which we have had access shows that an average figure of 4 per cent based on the gasoline can be considered to represent conservatively the losses due to these reactions of sulfuric acid. In addition to the actual losses of gasoline it must be remembered that the substances lost are among those which give cracked gasoline its increased value as an anti-knock motor fuel.

Table 1 gives the volumetric and total treating losses found on representative samples from Cross, Doherty, Dubbs and Setzler cracking plants, charging Mid-Continent gas and fuel oil. These determinations were made in laboratory apparatus, but the distillates were in each case commercial ones, and the treatment the minimum required to make a merchantable product.

In addition to these chemical losses there are the many mechanical losses caused directly or indirectly by acid treatment, such as pumping losses, vaporization losses and the like, but with recent improvements in refinery technology, an example of which in this connection is continuous treatment, these mechanical losses are steadily becoming smaller.

BEFORE being subjected to the main step of the treatment with sulfuric acid, pressure distillates should first be washed either with water or with dilute alkali, for the purpose of removing hydrogen sulfide formed by decomposition of sulfur compounds during the cracking operation. This is particularly important in the case of cracked products from high sulfur charging stocks.

Where this precaution is not taken, the hydrogen sulfide under the influence of sulfuric acid will to a considerable extent combine with some of the olefines present, forming mercaptans which are much more

Table I—Acid Treating Losses in Treating Pressure Distillates

Sample	A	B	C	D	E
Percent of gasoline in raw pressure distillate	61.6	61.4	69.0	81.0	76.4
Pounds of acid per barrel	5	5	5	5	6
Volumetric treating loss, percent of pressure distillate	2.6	2.7	2.1	2.2	2.4
Percent of gasoline in treated pressure distillate	59.4	60.8	66.5	79.1	74.2
Net yield of acid treated gasoline	57.8	59.1	65.1	77.4	72.5
Loss of gasoline—percent of pressure distillate	3.8	2.3	3.9	3.6	3.9
Loss of gasoline—percent of gasoline	6.1	3.8	5.6	4.4	5.1

difficult to remove from solution than is hydrogen sulfide. If the alkali wash is resorted to it is best followed with a water wash before the sulfuric acid step, although this is not actually essential, particularly where a continuous treater is used in which different steps of the treating are performed in different vessels. The amount of acid needed varies from 2 pounds per barrel to 8 for more frequently encountered cracked products and higher for certain products from California crude or vapor phase cracked products.

IMPORTANT features to be taken in account during this step of the process are thorough agitation, insuring good contact between the acid and the oil, and as short as possible a period of contact so as to minimize the undesired reactions.

In continuous treaters this is effected by mixing-heads and jets, or by baffles, whereas in batch agitators contact in treating light products is usually attained by circulation through a pump. Immediately after the sludge is drawn off the oil should be thoroughly washed with water, after which the alkali treatment is given. In most cases this consists of a combined neutralization and doctor treatment, the customary solution of sodium plumbite (litharge in caustic soda) being used. Usually in dealing with cracked products no sulfur is added at this point, the subsequent redistillation being relied on to decompose the lead compound formed by the reaction of the doctor solution on sour oil. For some oils higher in sulfur than the ordinary, a "split plumbite" treatment is resorted to, in which sodium plumbite solution is used both before and after the sulfuric acid. Details of this method of treatment and a good discussion of acid treatment in general and its application to treating different types of product can be found in Morrell's article "Systematic Refining of Cracked Distillates", in Industrial & Engineering Chemistry, 18, 733 (1926).

The side reactions due to the sulfuric acid result in the introduction of colored and higher boiling substances in the cracked distillate which would necessitate a rerun distillation even if the product treated were endpoint gasoline. This makes it inadvisable, where acid treating is used, to produce an endpoint gasoline from cracking stills. The redistillation must be performed very carefully, using large amounts of steam and keeping the temperature of the oil in the still below 350 degrees Fahr. to prevent deleterious effects on the product.

There distillation conditions are carefully watched and where sufficient quantity of acid has been used in the treatment, a good colored,

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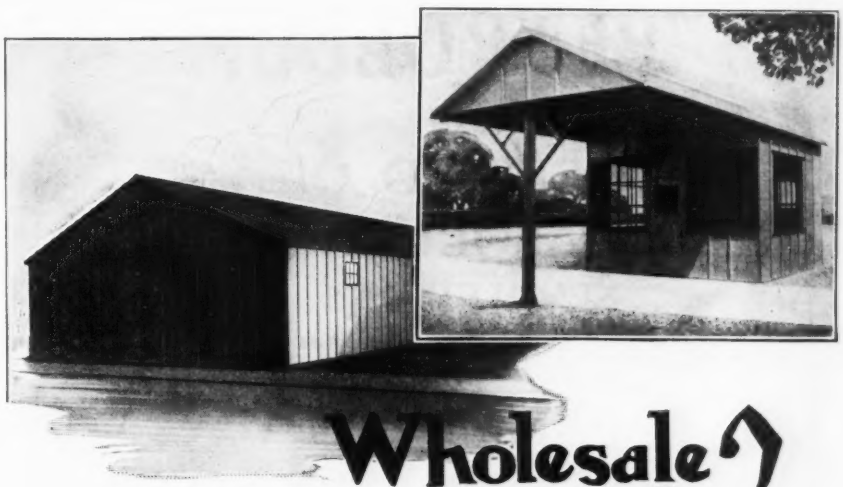

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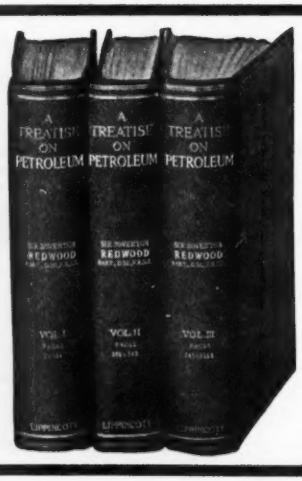

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fairly stable, low gum content gasoline can be obtained which is ordinarily slightly sour if doctor solution has been used and quite sour if alkali has been used after the acid. In the first case a treatment with doctor solution may be enough to complete the sweetening, without the addition of sulfur.

However, in most cases of commercial application sulfur is necessary if a sweet product is desired, due to the fact that distillation conditions cannot be economically controlled to a sufficient extent. The doctor treatment of cracked gasoline will be discussed in more detail below.

A method intended to make possible the acid treatment of endpoint cracked gasoline without subsequent redistillation consists of the treatment of the gasoline with small quantities of sulfuric acid in a continuous mixer, followed by the separation of the sludge in a centrifuge. This was intended to obviate to some extent the rise in end point caused by the polymerization due to the acid treatment. It requires, however, expensive apparatus, and there is not yet enough information as to its commercial use available to indicate whether or not it will ultimately be successful.

FOLLOWING is a summary of acid treating and rerunning costs representing average costs as obtained from a number of refineries. They cover acid treatment of pressure distillates from good charging stocks, and would be considerably higher for high sulfur or otherwise refractory stocks.

Table II

Cost of acid treating per barrel:	
Labor, etc.	$.005
Repairs	.007
Chemicals	.067
Water, power, etc.	.010
Miscellaneous	.007
	.096
Cost of rerunning:	
Labor, etc.	.008
Repairs	.007
Fuel	.027
Water, steam, power	.016
Miscellaneous	.005
	.063

To them must be added the losses due to the acid treatment (about 4 per cent of the gasoline, as we have seen) and the rerunning loss, which will be from 2 to 4 per cent of the pressure distillate, or from 2.5 to 6 per cent of the gasoline, depending on the amount of low boiling hydrocarbons present.

Whereas acid treating of cracked products was simply a development of well known practice with slight modifications to suit the case at hand, vapor phase refining was worked out with cracked products in view, and is intended to eliminate most of the disadvantages incurred in acid treat-

ing. This process is also based on the polymerization of the objectionable unstable unsaturated compounds, which is effected by passing the vapors in contact with substances capable of catalyzing the polymerization reaction of the diolefines.

The same reaction which in use would cause the sticking and gumming of valves is taken advantage of to produce these polymers, which being of a higher boiling point can easily be separated therefrom in liquid form before condensing the refined vapors. Solid adsorptive catalysts are used for this purpose, the one in common commercial use being fuller's earth. These substances are much more selective than acid in their action on the components of cracked products, as they seem to affect under the conditions only the diolefines, and allow the valuable olefines and aromatics to pass through unchanged. In fact, anti-knock tests in actual motor operation by the bouncing pin method show that the treated gasoline is not appreciably different in anti-knock value from the crude cracked gasoline.

AS THE materials polymerized in this process are simply the objectionable diolefines, which are present in most cases in small quantities, the polymers formed amount usually to from six to eight tenths of one per cent of the material treated, and for pressure products are always well under 1 per cent. This is the only loss incurred by vapor phase refining and is in some cases balanced by what actually seems to be an increase in the amount of gasoline.

Since the materials treated are in the vapor phase, it is possible to use the process either in connection with a rerun distillation where the cracking unit produces a pressure distillate or directly in connection with the cracking unit where the latter is capable of producing end point gasoline. It is in the latter instances especially that the gain in yield is apparent, as in installations of this kind despite the known occurrence of polymers it has been impossible to determine any difference in the yield of refined gasoline obtained from that of crude gasoline obtained directly from the cracking unit.

It is thought that this is due to the partial polymerization to substances boiling in the gasoline range of what would otherwise be lost as fixed gases.

The apparatus used is of the simplest. It consists merely of a tank with a false vapor permeable bottom, on which the catalyst is supported. Vapors to be treated may be introduced either above or below the bed of catalyst and preferably pass through it. During the

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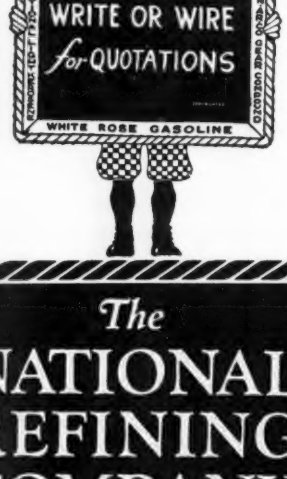

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passage the diolefines are caused to polymerize, and the polymers, having a higher boiling point, remain liquid and are trapped out from the vapors, which are passed to the condenser. Despite the fact that the treating towers or polymerizers are well insulated there is some condensation of gasoline taking place in the fuller's earth. This is very useful in that it assists in washing the polymers out of the clay and prolongs the life of the catalyst. Condensate and polymers are easily pumped to the fractionating column, or in the case of direct connected units, to the vaporizer or bubble tower of the cracking still. The polymers are interesting substances chemically, and it is more than likely that a use will be developed for them which will make it advisable to collect them separately. At present, however, they are in most cases recracked, as they make excellent cracking stock.

The fuller's earth used in commercial installations has had an average capacity of well over 1000 barrels of finished gasoline per ton. This, of course, also varies with the distillate being treated. In one case, a Mid-Continent gas oil cracked by the Cross process a yield of almost 7000 barrels per ton has been obtained. Most commercial installations range from 700 to 3000 barrels per ton.

As the treating towers in most common use contain either 8 or 15 tons of fuller's earth, the number of barrels which can be treated per charge of catalyst can be seen to be large, and the percentage of idle time due to discharging and recharging the catalyst is very small. Moreover, the earth can be burned and revivified almost indefinitely in furnaces of the multiple hearth type, giving practically as good results on the fortieth use as on the first. Most users of the process, however, discard the clay after using it once—the yields being so great as not to warrant the cost of reburning equipment. The gasoline produced is of good color, stable, low in gum and makes a very satisfactory motor fuel.

BASED on a plant capacity of 1000 barrels of gasoline per day, operating costs of vapor phase refining are about as follows:

Table III

	Plant recovering clay per barrel	Plant discarding clay per barrel
Interest, depreciation, etc.....	$.006	$.008
Transporting fuller's earth, charging and discharging treating towers, etc.	.003	.003
Clay roasting	.001	.....
Cost of clay	.001	.015
	.011	.024

To these costs must, of course, be added the royalty charge of $.06 per barrel. It will be seen that even with this added, the costs are lower than acid treating costs, even before the large losses due to the latter are taken into account. When the vapor phase refining method is used directly connected to the cracking still, the rerun distillation loss is also saved, making a net saving to the refiner of more than $.30 per barrel. With vapor phase refining on a rerun still, this saving becomes about $.20 per barrel.

Where it is necessary for trade reasons to prepare doctor sweet gasoline from pressure still products, it is a considerably more delicate task than the similar operation on straight run distillates.

The conventional doctor treatment is applied in most cases, as attempts to sweeten pressure products with hypochlorite have not generally been successful and this mode of treatment is no longer recommended for cracked gasoline.

As we have seen above, although it is possible in the laboratory in most cases to rerun acid treated cracked distillates with steam in such a way as to obtain a sweet or only slightly sour gasoline, this is not ordinarily practicable in commercial operations, due to the large quantities of steam and low distillation temperatures necessary, resulting in the necessity for larger condensers, slower distillation and general uneconomic conditions.

It, therefore, becomes necessary to sweeten the gasoline after rerunning. The following discussion relates, therefore, not only to vapor phase refined cracked gasoline but also to most acid treated products.

MANY refineries have adopted the expedient of blending their cracked and straight run gasolines before sweetening in the proportion in which they will later be sold. This is, however, not to be recommended, as straight run and cracked gasolines usually require rather different methods of treatment. In sweetening cracked products with doctor solution and sulfur the important considerations are the maintenance of color stability and the avoidance of producing a corrosive gasoline.

The first is very important when the gasoline is to be sold from visible pumps, as it is extremely easy in doctor sweetening to render otherwise carefully refined cracked gasolines so unstable as to cause them to turn dark yellow after short exposure to sunlight. However, by careful manipulation of the sweetening this can be avoided. Batch or continuous processes may be used to good advantage but from the standpoint of control batch is to be preferred in doctor sweetening.

The strength of doctor solution is immaterial, equally satisfactory results having been obtained with 10°

and 30° Be. solutions, most of those in use in refineries being somewhere between these points. Where considerable quantities of hydrogen sulfide are present it is economic to remove it by water washing or treatment with dilute caustic solution before the doctor solution is applied, although recent disclosures of the sweetening effect of lead sulfide indicate that it may in some cases be advantageous to leave the gas in solution.

After thorough agitation of the oil with the doctor solution, the sludge may, if desired, be removed before addition of sulfur is commenced. In cases where there are large amounts of low boiling mercaptans present, it is best to remove the sludge at this point, as this results in a somewhat lower consumption of sulfur in the next step, thereby favoring the production of a stable non-corrosive gasoline.

Sulfur should be added very carefully in small amounts at a time, with good agitation between additions. Unless the amount of sulfur necessary has been determined by careful laboratory tests, it is absolutely essential that the addition be controlled very carefully at the agitators, and this additional control is advisable even in cases where laboratory tests have been run. It has often been noted that the reaction is actually complete considerably before the lead sulfide precipitate is sufficiently coagulated to settle of its own accord.

In these cases addition of sulfur should be discontinued when the reaction is complete.

The sludge should then be removed and the oil thoroughly washed with water. Treatment in this way, which differs from the conventional treatment chiefly in the careful addition of sulfur, results in a non-corrosive product of stability equal to that of the unsweetened, whereas insufficient care in the addition of sulfur will almost certainly result in an unstable product and very likely in a corrosive one.

Where doctor sweetening is done continuously, the sulfur is best added by passing a small stream of the oil through a vessel containing sulfur, thus producing a solution of sulfur which is used to complete the reaction. Extremely careful control is, of course, also necessary here.

It is possible by vapor phase refining to prepare a doctor sweet product directly, by combining copper oxide or similar materials with the fuller's earth or other adsorbent used. Both laboratory and refinery scale experiments along these lines gave extremely satisfactory results, and the commercial installation of the process so modified is only waiting the conclusion of experiments to determine the best way of recover-

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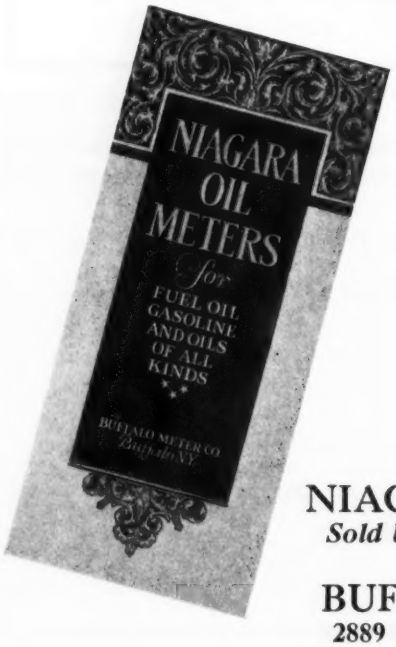

THE new edition of the Niagara Oil Meter catalog just published, will be interesting and helpful to you. It gives definite suggestions on the best ways of securing accurate reliable measurement of all petroleum products. The problems of marketers, refiners, producers, retailers, fuel oil users and others are all separately considered. This whole catalog is enlarged and improved. New models are listed. Niagara Meters, now more than ever before are the most complete line of meters for the oil industry. May we send you this catalog?

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The removal of sulfur from cracked gasoline where stringent sulfur specifications are to be met is a problem which has not yet satisfactorily been solved. The sulfur in cracked products is present in many forms, some of which have not as yet definitely been identified and others of which, although identified, are very difficult to remove. From the sulfur removal viewpoint alone, sulfuric acid is probably the most successful treating agent that has yet been used, but its use is even less desirable for that purpose than for treating to color and gum specifications, because it must be used in large quantities, resulting in extremely large losses of gasoline and accompanying decrease in anti-knock characteristics.

A recently developed process for treating cracked gasoline with either concentrated or fuming sulfuric acid at low temperatures (from 12 to 20° Fahr.) has been found to be more satisfactory in that the losses are considerably reduced, whereas the removal of sulfur is even somewhat better than when carried out at ordinary temperatures. Even at the lower temperatures, however, the desulfurization of cracked California products by sulfuric acid results in considerable losses both of gasoline and of anti-knock rating.

Modifications of the vapor phase refining process so that it would be effective in lowering the sulfur content of gasoline are being experimentally tried out, and at present satisfactory results have been obtained to the extent that about 50 per cent of the sulfur originally present can be economically removed. It is, however, expected that this method will be further developed into a satisfactory commercial process.

The discussion in the preceding pages has been confined to the commercial aspect of the treatment of cracked products, and has accordingly been limited to the products of pressure cracking processes. A trend towards high temperature, vapor phase cracking processes is, however, clearly discernible at present, several large refineries having been reported to be taking a very active interest in the subject. Products of these processes will in all probability be even better anti-knock fuels than the cracked gasoline of today.

Schenectady, N. Y.—Coke plants are among those named by the General Electric Co. where its dust-tight, boiler-plate enclosing case for wall mounted, general purpose starters are useful. The cases are of ¼-inch boiler-plate steel with welded joints, which forms a dust-tight joint.

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Illinois Pipe Line Co. Electrifies Lines

EAST PITTSBURGH, Pa.—After tests with synchronous motor-driven centrifugal pumps for the transportation of crude in its lines, the Illinois Pipe Line Co. has electrified all of its lines from St. Louis to the Pennsylvania border, according to the Westinghouse Electric Co. here.

The Illinois company installed the first synchronous centrifugal pump at its Coulter station in April to determine whether oil could be successfully handled at high pressure by these pumps, and whether the churning motion of the pump blades would emulsify the oil. The first installation was a Westinghouse 150 horsepower synchronous motor, driving two Cameron centrifugal pumps in series.

The pumps used on the St. Louis-Pennsylvania line are now driven by 4300 horsepower Westinghouse high efficiency synchronous motors. The Westinghouse company points out that this method of pumping oil will be satisfactory and costs will be lower than steam and Diesel engine driven reciprocating pumps.

Virginia Oil Men to Talk Code of Ethics Oct. 20

CHARLOTTSVILLE, Va., Sept. 20.—An invitation is being sent out by the Virginia Independent Oil Men's Association to all state oil jobbers organizations to attend the annual convention to be held at the Monticello Hotel, Norfolk, Va. on Oct. 20 and 21, at which time the now widely heralded national marketing code of ethics will be fully reported upon and settled, according to J. B. Belk, president of the Albemarle Oil & Gas Co., here, and also president of the Virginia association.

Those state organizations who have been interested in the code of ethics will be asked to join in the proposed organization of oil jobbers and marketers that would include the Atlantic, southern and central states. The purpose of such an organization, Mr. Belk says, would be to embrace a larger territory in which the code of ethics would yield a greater amount of good.

It is Mr. Belk's opinion that the oil marketing industry needs a national organization that would devote its entire efforts to the eliminating of unfair or poor trade practices, to bringing together a closer feeling between major and minor companies, to treat generally with activities of marketers, jobbers and refiners, and to work out the industry's own salvation without interference of state or national legislation.

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FREEDOM

The Editors' Viewpoint

National Petroleum News

Do We Want To Be Unionized?

By Warren C. Platt, Editor

THE Threat of the American Federation of Labor to unionize, first service station employes and then refinery workers, calls on the oil executives to investigate the effects of unionism on an industry.

The oil industry has been exceptionally free from today's unionism because it has been a different industry with every job an opportunity for real advancement. Oil will probably continue to be free from this taint but, it is desirable that oil men take seriously—yes, and employes, too—the threat of the American Federation of Labor so that when the decision is made by each whether he will deal with or through a union or not, that decision will be intelligently done.

As stated in a previous editorial on this subject (page 46, Aug. 31 issue) this paper's objection is chiefly to unionize as it is today. Theoretical ideal unionism may be all right but we haven't the ideal to deal with today.

The primary objection to unionism of today is that it is usurping the functions of management for which it is not at all equipped and probably never will be. Today's unionism would make a business a co-operatively run affair, and businesses cannot be successfully operated that way.

From all the evidence at hand it appears incontrovertible that the more highly unionized a business is today the more inefficiently it is operated—the higher its costs. This does not necessarily mean that the workers get more money per day but that there is less output per dollar of cost and investment. Union leadership seems to be working to reduce output per man in a deluded effort to create more jobs. The ultimate cost to the consumer—who is also the working man—is not in the thought of the unions.

It has almost been axiomatic that labor unions are against all labor saving machinery and all short cuts in business that will reduce costs. The labor unions today are fighting just as vigorously the installation of paint spraying machines as they did the institution of typesetting machines 30 years ago, even though they have the tremendous development of printing as a result of these, as well as other labor saving machines, to prove their value to labor; even though they have the high wages paid by Ford and others, and the low cost products of those companies which labor uses, to demonstrate to them the falseness of their theories. But union painters fight the paint spraying machines, even to wrecking the machines and spoiling the jobs done by them.

The aim of union leadership today is the "closed shop," a place wherein only union men will work on materials dug or created only by union men, transported only by union men and from which the products go only to union consumers. Obviously the unions have not accomplished all this but in some lines, particularly building they have gone farther probably than the average man realizes.

In these "closed shops" the unions say what class of workers shall do what kind of work and this regardless of common sense generally; what the shop discipline shall be even to leaving the discipline entirely in the hands of members of the union; what apprentices shall be employed and how, and in many other ways undertake the problems of management, to the detriment of the business.

Once a "closed shop" is established in a business it is there until the owners are willing to do battle perhaps over a long period of time and at great loss to dislodge it. Once such a condition exists you either have to continue dealing with the union regardless of its demands or fire the whole lot and recruit an entirely new personnel under the handicap of espionage and sabotage, the degree of which will depend on how the local police and city administration truckles to the union vote.

Once again let us enter a disclaimer against our being charged with an unthinking bias in these matters. Unionism is solely human and its errors are human ones. Because of the degree of education which the average worker has, he is led the more easily by men of strong wills and designing aims to say the least. Union leaders force their way up from their own ranks. If some of them had happened into other environment they probably would be leading business men. Some are good and some are bad. The writer has had fairly close contact with unions in past years when in the daily newspaper business. He has reported hundreds of labor meetings. He has sat week after week in the meetings of the central labor councils. He has known union leaders of all kinds and description. Some he respected and was proud to have them for friends. Others he cannot say so much for.

Men become leaders of unions because they like the politics of it, because they really believe in the aims of unionism, and because it is profitable. Some men make it highly profitable as has been disclosed by various investigations over the country. Unions are most profitable when they are large. They are large when their leaders are "doing something." You don't have to win strikes to keep a union together but you have to have them occasionally to keep up interest. Union leaders have to keep formulating new "demands" all the time or they and their unions will die. And just as in all political movements many jobs for many people are needed to keep up a well organized machine to maintain the leaders in power.

Hence when unionism accomplishes the "closed shop" in a business it must keep on. That is when it gets into the problems of management. Then it deals with matters of which it knows nothing, for which neither its membership nor its leaders are fitted.

So when unionism has gone the limit one is always

safe in assuming that gross inefficiency is present in the business that is "unionized." Perhaps the day will come when that will not be, but that day is not with us.

Probably the closest "closed shop" aggregation of unions in the country is in the building trades in some of the larger cities, like New York and Cleveland. Until comparatively recently, after the employers and the whole town had rebelled, it was impossible for any non-union labor to be used anywhere on a building job in Cleveland. The type of leaders in this group of unions was not a compliment to the cause of unionism. The result was deplorable conditions with the public paying the bill in much higher construction costs without any greater return to the average worker.

Finally the employers organized the American Plan Association which holds that any man regardless of his affiliations is entitled to work at whatever he is best fitted. The association gathered figures to show that building costs in Cleveland were at least 25 per cent above those in other large cities which had the "open shop." In 10 years it was estimated that the "closed shop" in Cleveland cost the public unnecessarily-wasted more than $200,000,000. This figure is considered low rather than high.

An illustration of the difference in cost between a "closed shop" job and an "open shop" one is given by the American Plan Association, in the following bids which were received by a Cleveland company for a certain job. There were four "open shop" bids and three "closed shop" ones, as follows—

"Open Shop" bids	"Closed Shop" bids
$485	$1058
525	1185
600	1358
800	

The American Plan Association comments on the above,—

"Now the lower price asked by the "open shop" contractors is due not to the payment of low wages but to the absence of "closed shop" restrictive rules and practices. For instance, the nature of the job was such that the "open shop" contractors had the privilege, if they so desired, of using paint spraying machines, which are not permitted under union rules."

Then the association lists a large number of cases where jobs done with spraying machines and nonunion help were damaged. It points out that paint spraying machines are objected to even where non-injurious materials are used in them, although the union's only contention against such machines is that they injure the health of the operator.

Illustrations of the limitation of output and the reduction of efficiency and the creation of deplorable waste are numerous.

Apprentices are limited in all unions and working rules are so drawn that skilled workmen at high wages have to be used for cheap work. The printers union has long been notorious for its inefficiency by limiting apprentices and forcing the use of high priced men on work that a boy can and should do. Even in this enlightened day the mats of oil company advertising are disregarded in newspaper offices. That mats are paper moulds which can be placed in a holder and a plate showing all the cuts and type made therefrom in a few minutes and at small cost. These mats are made up at a central point and sent out to all neswpapers in which the advertising will appear. When they are received in a "closed shop" newspaper office, and all large newspapers are "closed shops," either the mat is thrown away and the material set up in type or the mat is used and the material still set up in type and then the type is thrown away, in order that no compositor will be deprived of a stint of work.

Newspapers are such trucklers to certain types of so-called public opinion that they have not the courage to throw out this abominable system and the organizations responsible for it.

The American Plan Association cites many cases of this type of waste. Some of the illustrations are,—

"When lighting fixtures, which have been manufactured in an open shop, are received on a Cleveland job, they are torn apart and rewired at an excess cost which can be easily imagined.

"Every one of the building trades have rules equally as immoral. They have, for instance, a rule requiring skilled labor to carry material from the sidewalk to the point of installation when common labor could do the work just as well; a rule limiting the size of the painter's brush to 4½ inches in width, etc., etc.

"Only recently we had a letter from the representative of the National Floor Surfacing Co. stating that he had to leave town because the unions refused to permit the use of floor-scraping machines which would take the place of five or six men.

"The balance of this report could be filled with a list of similar cost-increasing, efficiency-reducing practices, but we will close the subject by quoting from a letter which we received from a man who built a home last summer and who describes the manner in which he suffered because of the conditions which exist in the building industry in Cleveland:

" 'In the first place, I was penalized in the contract by the actions of the unions in compelling an allowance of twenty minutes in the morning and twenty minutes at night, for the men to come from the nearest car line (Shaker Boulevard) to their work and return to the car at night. This distance can easily be covered on foot in six minutes. The total penalty on the contract amounted to $485 for this item. The fact of the matter is that all of the trades came to their work in auomobiles, in spite of the fact that I made the allowance above noted.

" 'I had an opportunity to purchase all of my plumbing supplies from a source out of the city of Cleveland, and save a very considerable amount of money, but I was informed that the Union Master Plumbers would not set this material if it was not purchased in Cleveland. I was further informed at the time the contracts were let, that I could purchase the same character of brick which I used, at some thing over $4.00 per thousand less, by buying in Chicago —the amount noted of $4.00 per thousand being the net saving after transportation was paid. I was also told that it would be quite impossible to get any union bricklayers who would lay this brick if purchased outside of Cleveland.' "

All of the foregoing is given to aid the oil industry in its study of whether it wants to be unionized or not.

The Trend of the Times

By Lawrence E. Smith

N. P. N. MID-CONTINENT BUREAU, WORLD BLDG., TULSA

National Petroleum News

A FEW days ago this writer happened to find Umpire Ray M. Collins in his office. It was a notable event, for Mr. Collins hasn't been in his office much for the past two months. He went to the field when the latest style in prorations, to-wit, the 450,000-barrel daily maximum for the Seminole district, became effective and staved there.

On this day we are speaking of, Mr. Collins had been given another jolt. He has had many since he undertook the difficult job of trying to harmonize a vast deal of conflicting interests. The latest jolt was given by a district court which enjoined him from carrying out the corporation commission's order to restrict production in the Little River field.

One of these dealers in facts is Collins. He was wondering what the district judge would have to say on the following day, when he was to appear and get the decision on the request for vacation of the injunction. He hoped the court wouldn't ask whether the injunction, then four or five days old, had been complied with.

"How will it be proved that it hasn't?" he was asked. "The one well affected by that order has been producing more than 1,000 barrels a day and the commission's order, under which you are operating, calls for 100 barrels. How will it be shown that the well would make more than 1,000?"

"NO, I never believe in subterfuge on these things," said the umpire. "If the court asks whether I have complied with his injunction against pinching in the well, I will have to tell him I haven't. All I can do is hope he will be easy on me."

As it developed, the question wasn't asked and the court vacated his injunction on jurisdictional grounds. Had he stood pat, there might have come up the question of contempt.

It is this honesty of Collins that has brought him through all these months with the respect and friendship of the interested operators. He plays fairly. He has had many an argument with executives and with the field men, but all conducted in a spirit of amiability and with courtesy. The opportunity for misunderstanding is ever present and rumor is always busy. Field superintendents are ticklish propositions.

Usually they are opposed to any plan for restricting production and the reason is obvious. All their lives they have been pounded on the back by their companies to get the maximum yield from a lease and if the production slumps sharply, they are called to explain why. Hence, it is an entire reversal of their way of thinking when they are told to throttle the flow they have worked so hard to get. It's like telling a man to stop being a republican and become a communist.

ONCE these fellows were given their instructions by the higher-ups, they became eternally vigilant with respect to other companies. They watched to see whether some other fellow might be cutting corners. It is not difficult to find that the other fellow is not as fair as you are. The rumor would start that the Cinco Oil & Gas Co. was running 2,500 barrels that day instead of the 2,000 the umpire permitted. There would be a query of the umpire as to whether it was true. He would patiently take his hat and his car and drive over the rough roads to the place where the alleged offender was to be found. He would then report back to the person who felt aggrieved. Invariably, these were merely rumors, but he always chased them down.

This didn't start out to be an eulogy of the umpire. Nothing has been said, however, of the personality and characteristics of the man who has been mentioned as much in the newspapers within the past nine months as any of the giants of the industry. Here in the Mid-Continent he had many friends before he was asked to take on this job. The number has been vastly increased and his stature has been heightened. Formerly, he was just the head of a small, progressive producing company. Now he is a public figure and he has measured up to the tests that have been imposed.

A PECULIARITY of the man is that he is always calm. He has had plenty of discouragement. He was placed in a well-nigh impossible position. Where operating problems are so great, where there are so many interests and considerations that conflict, no form of agreement stands up for long. It's like trying to control the Mississippi. The levee may be strengthened in one place and the flood will break through in another. In the Seminole district one situation might appear to be patched up when there would come the discovery of another pool and the drilling frenzy would be on again. No industry-saving achievement can be claimed for any of the plans that have been set up but Collins was always in there trying.

He always had his ideas of what should be done and he was not reluctant to state them. If they were not approved, he bobbed up with something else. He has helped materially in planning for the holding back of drilling in wildcat areas where a well gave indication of another pool. Being an operator himself, he never hatches impossible schemes and whatever he suggests has the merit of being based on reality. And he is always in there pitching the best ball he can, even though the opposition is many runs ahead.

HOW the overproduction question appears to one far off is revealed in a letter from Comodoro Rivadavia, The Argentine:

"I have been reading with much interest your series of articles on the present overproduction question. The article which I believe merits special notice and commendation is the one in the May 25 issue. Petroleum is too valuable a product to become a gold brick, just because one spot in Oklahoma has more of it than is best.

"Here, for instance, in terms of U. S. gold. gasoline 200 degrees Cent. e.p., is selling for 42 cents per U. S. gallon; fuel oil, extremely heavy asphaltic grade. specific gravity .940 to .936, sells for $1.80 U. S. per barrel of 42 gallons. The whole thing is a question of hysteria."

A SYNDICATED horoscope, which bases its predictions on the attitude and behavior of the stars, says:

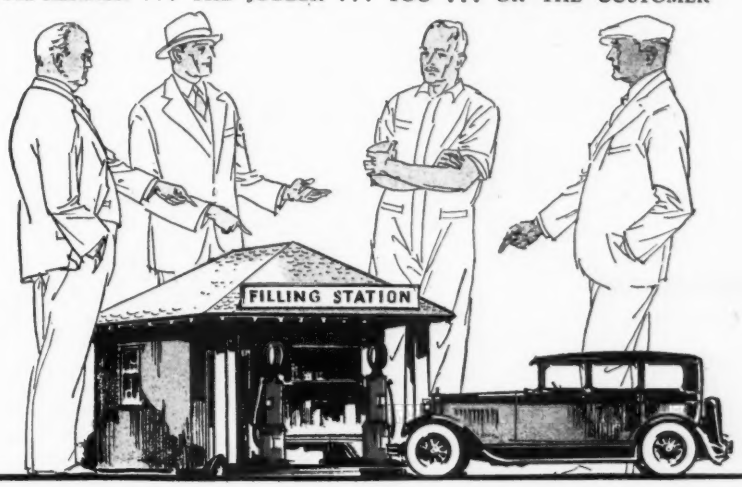
"American oil interests in foreign lands again come under a direction of the stars that makes for trouble."

The next paragraph says that the iron and steel industries are so directed by the stars that business in foreign countries will be greatly whooped up. Apparently even the celestial bodies have turned against this much-maligned oil industry. It would be well for the A. P. I. to appoint a planets relations committee to remove the misunderstanding.

PROBLEMS FACING THE INDEPENDENT FILLING STATION — No. 3

Who bosses your business?

THE OIL REFINER . . . THE JOBBER . . . YOU . . . OR THE CUSTOMER



THE manufacturer can make any product he likes—AND—
The jobber may be able to sell any products he likes—
AND—

You can stock anything you like—But—If you have no customers—you have *no business*.

Did you ever realize that? The customer is the BOSS of your business. How can you better please him?

On this important question our Filling Station Specialists may be able to offer helpful ideas.

We have studied why car owners stop at one station and not at another. Why some stations fail and others make good profits.

Our Filling Station Specialist will gladly come to discuss your problems with you. Such a discussion may bring out new ideas. Ideas that will add to profits. He will gladly talk with you about selecting sites for new stations, speeding up slack-hour business, increasing your farm trade and other matters of importance to you.

When do you wish to talk to the Filling Station Specialist? A card to our nearest branch office or a word to the regular Mobiloil salesman will bring him.

More customers — more profits

The oil that is most profitable to carry is the oil that most motorists want. Your business comes from motorists—nowhere else. What oil is best known? What oil is most asked for by name? What oil has the highest reputation for quality? GARGOYLE MOBILOIL. Mobiloil brings you customers you can get in no other way. And more customers mean more profit.

To make BIG profits you must know answers to these questions

1. How can you meet today's competition?
2. How can you cut down the number of slack hours?
3. How can you better please your customers?
4. What makes customers come back?
5. What makes tourists stop?
6. What makes women drivers buy?
7. What makes the farmer buy?
8. How can you compete successfully with big refiners?
9. Which brings most profits — "private" brands, "public" brands, or both?
10. How can you make larger sales to each motorist?
11. How should you locate new stations?
12. What type of station should you erect?

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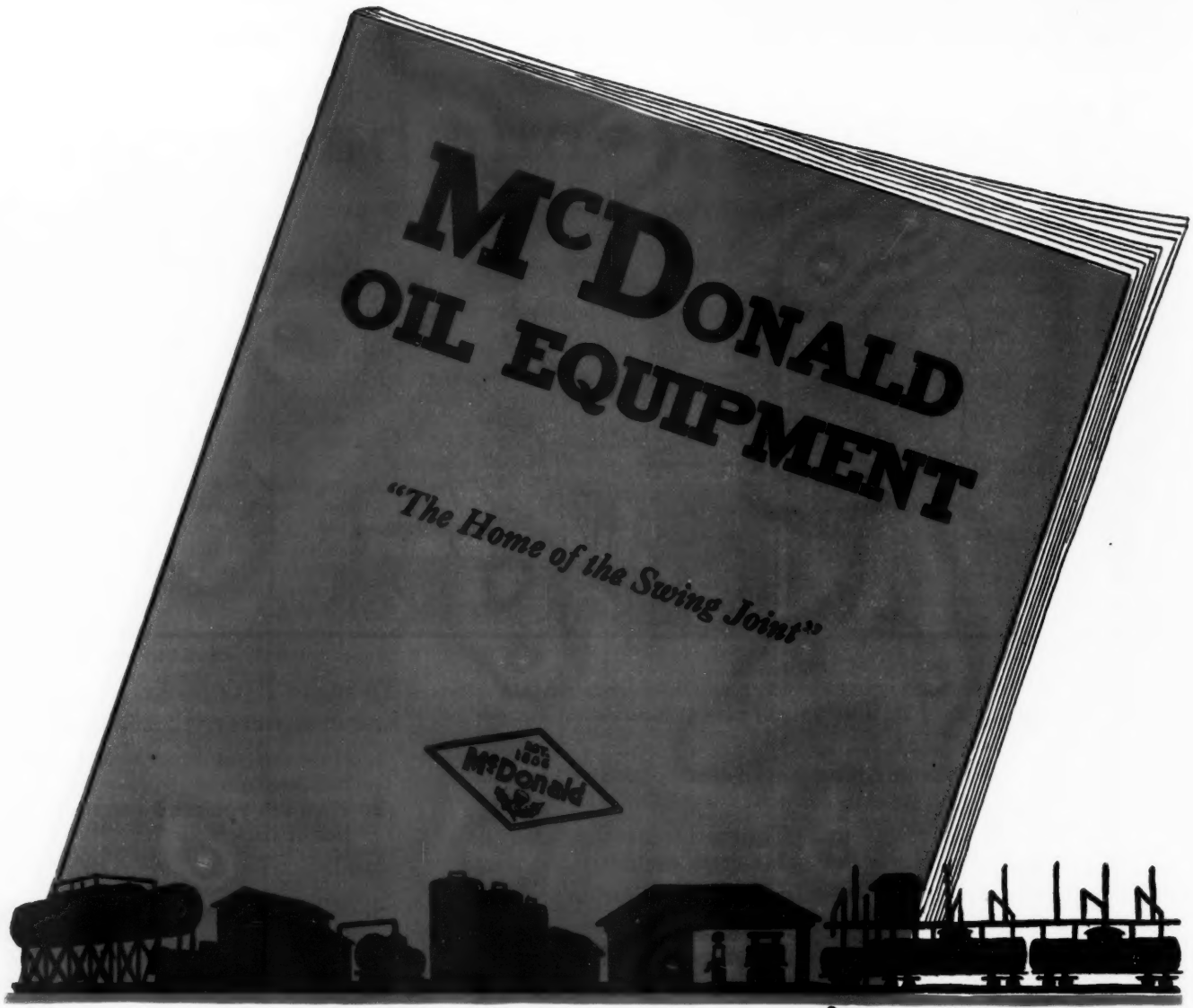

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SUN OIL COMPANY
PHILADELPHIA

Our Industry — A Page of Facts and Personalities

National Petroleum News

By Paul Wagner

WILL I. DAVIS, familiarly known as "Bill," was responsible for the drilling of the first successful oil well south of the Nevasota river in Limestone county, Texas, southwest of Nigger Creek field. He interested William A. Reiter, geologist and individual operator of Mexia, in a partnership which later sold a half interest in the so-called Cedar Creek prospect to the Moutray Oil Co., of Abilene. Their discovery well, No. 1 R. P. Ward, made maximum daily production of about 500 barrels after deepening a few feet below the level at which it first made oil yields, 2879 feet. The well foreshadows further development along a fault line paralleling the Mexia-Powell fracture on the west, where the Nigger Creek field had been the only producing pool.

* * *

SINCE the establishment of west Texas headquarters of the Pure Oil Co., at Odessa, with H. H. Brewster as district superintendent, these changes have been made in the operating personnel under him. L. S. Burkhart is in charge of Howard county operations; A. A. Goodman, Winkler county; and R. R. Salter, Upton county. Superintendent J. M. Bower has been given jurisdiction over the Currie and Wortham districts, in east Texas, which had been under Mr. Brewster prior to his transfer to Odessa.

* * *

D. E. O'BRIEN is now in Barranquilla representing the John W. Leonard interests of Washington, Pa. Mr. O'Brien had been recently located at San Antonio before leaving for Colombia.

* * *

C. M. LAMASON of the sales department of the Pure Oil Co., Beaumont, has been living in the semi-tropical southwest long enough that he evidently forgot about climatic conditions in Chicago before making a recent northern trip. Here is a message he is credited with sending home:

"S. O. S., B. V. D., C. O. D., P. D. Q."

* * *

JOHN E. SHAW, general manager of the Globe Petroleum Co., has returned to Tampico headquarters after two months spent in California. Mrs. Shaw and the children are still in Los Angeles.

ART GALBRAITH

ART GALBRAITH, assistant chief scout in the Fort Worth offices of Marland Oil Co. of Texas, has been with his present employers almost from the time they entered Texas several years ago. Prior to that he was with the sales department of the Imperial Refining Co., which in Ranger days had its headquarters temporarily at Fort Worth. Galbraith is widely known in the scouting fraternity.

* * *

G. S. MEABON, producing department superintendent of The Texas Co., in the Archer, Texas, district, spent his annual vacation in Pennsylvania. He drove the family back home in time for the children to enter school.

* * *

CALIFORNIA, Oklahoma and Texas should work together on problems dealing with times of overproduction, in the opinion of James H. Gardner, president of the Gardner Petroleum Co., Tulsa, who says "these states will be running neck and neck in American oil production for years to come." He says it is barely possible the Simpson formation in Oklahoma will yield place to the siliceous lime in Mid-Continent oil production, adding:

"This sounds somewhat wild, but history has shown the wisdom of being wild in estimating the oil resources of Oklahoma. This is one good reason why the shut down agreements should be made practical and precedents established in co-operative handling of overproduction problems."

* * *

BEVERLY WOOLWINE, cashier of the Huasteca Petroleum Co., operating subsidiary in Mexico of the Pan American Petroleum & Transport Co., at Tampico, will spend the rest of the summer with Mrs. Woolwine in San Diego, Calif.

* * *

H. E. CLARK, representing the Graver Corp., Chicago, in the sale of cracking still equipment through its Houston office, was recently married to Miss Sara Mae Adams, also of Houston, where they will make their home.

* * *

HERE is a fish story, or perhaps it is a tale of a snake, in which J. C. McCue, assistant manager of the producing department of The Texas Co., figures. Mr. McCue admits it himself, hence there is no need for questioning the story. He was recently indulging in his favorite sport in Uvalde county, Texas, when an emptiness about the waist reminded him that it was time to begin cleaning a string of perch. Other members of the party were scattered along the stream, so he went about his task comfortably while he waited for them. Being intent on what he was doing be paid no attention to a big snake that, having successfully and safely progressed alongside of him, became bolder. Before Mr. McCue knew it the snake had snapped out of his hand the perch he was cleaning and was speedily on its way to devour the fish.

* * *

JOHN Z. ANDERSON, onetime purchasing agent of the Gypsy Oil Co., at Tulsa, and since Ranger development days a drilling contractor in central Texas areas, is now making his home at San Angelo.

* * *

GLENN G. HORTON, formerly store manager for the International Supply Co. at Eldorado, Kans., is now resident buyer for the Indian Territory Illuminating Oil Co. in the Seminole area, with headquarters at the Walker camp in Bowlegs field. He succeeds Lundy Woods, who resigned to go with the B. F. Goodrich Co. as salesman.

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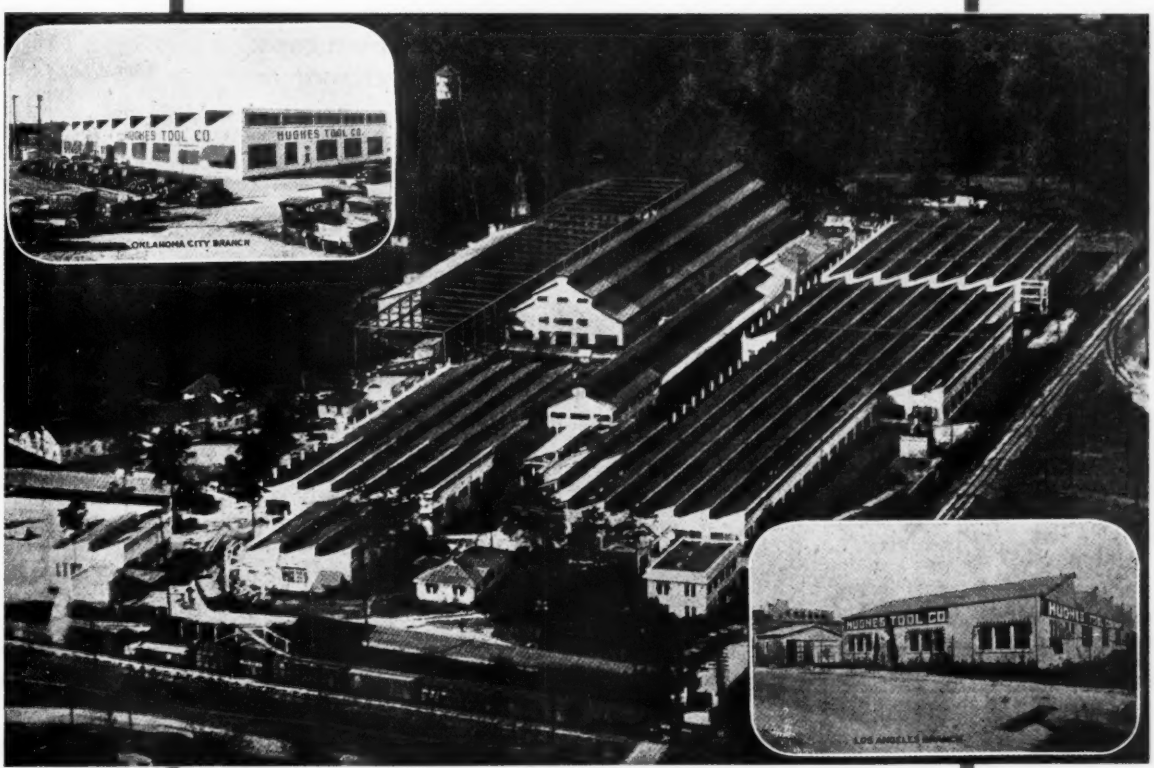

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"I flunked, and he asked me if I read the last issue of N. P. N. Well, I got h——. So I send my belated renewal to you with joy."

(Signed) J.C.R., Chicago, Ill.

J. C. R.'s honest confession carries a good suggestion to every man who depends on the "office copy" of National Petroleum News to keep him posted on the happenings in the oil industry.

You can have National Petroleum News come to you "personally addressed" 52 times a year for only $3.50. Send for your own copy today and your boss won't have a chance to give you h——.

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Ohio Marketers Change Publication's Name

COLUMBUS, Sept. 22.—Ohio Petroleum Marketers Association has changed the name of its official publication from Gas Nox to Ohio Petroleum Marketer, in line with the new editorial policy of printing articles of educational and news value.

The change was by unanimous vote of the board of directors in meeting Aug. 26, and the September issue carries the new name. The directors also ordered contents of all issues to be copyrighted.

The leading article in the current issue "Old Friend Under New Name" by W. A. Milne, executive secretary of the association, said in part:

"Under the old name it has served a very useful purpose and many fond memories entwine themselves like beautiful garlands about our old friend, Gas Nox. But the daughter will marry and surrender a name which she loves. We love her none the less, but we expect more of her in her new dignity. The Ohio Petroleum Marketer appreciates the new responsibility and will try to measure up.

"A further consideration in making the change was the fact that every oil man in the country has of late been getting all the 'nox' he can stand and mercy alone dictated that we should not thrust any more upon him. Even 'gas' is fast divorcing itself from 'nox' and if the genius of refiners continues to develop, 'gas nox' will soon be only a disagreeable memory."

Complete Pipeline Survey

HOUSTON, Sept. 23.—United Producers Pipeline Co., companion transportation interest to the Transcontinental Oil Co., has completed a survey for a pipeline from the Yates field, eastern Pecos county, a distance of 70 miles southeasterly to Pumpville, in southwestern Val Verde county. No announcement has been made of decision to go ahead with construction of an 8-inch welded pipeline, which is known to have been under consideration. The pipeline, when, if and as built would connect with necessary tank car loading racks on the Southern Pacific railroad.

Buys 35 Acres For Tank Farm

HOUSTON, Sept. 23.—Humble Oil & Refining Co., which eventually will extend its west Texas pipeline system to the Hendricks area of Winkler county, has purchased 35 acres of ground out of the Tobe Martin ranch for its Winkler tank farm. Locations have been made and grades thrown up for the first two of the four steel storage tanks of 64,000 barrels capacity each that the Humble now contemplates building.

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Oil Price Handbook

RECENT crude and tankwagon price changes have caused many an oil man to study prices prevailing a year ago at this time.

What was Mid-Continent crude a year ago today? Or, what was 58-60 U.S. Motor gasoline in Oklahoma? Or, the tankwagon price of gasoline a year ago? These are some of the questions you are asking yourself right now.

You can get the answers most conveniently, rapidly and accurately in the OIL PRICE HANDBOOK for 1926. It contains the refinery, tankwagon, crude prices and export markets for the entire year 1926 as published in the weekly issues of National Petroleum News. 146 pages, cloth bound, marginal index—price $5. Send for your copy *today*.

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KANSAS CITY: 13th Street and Eastern Ave.
CHICAGO: 1213 W. Washington Blvd.
SAN ANTONIO: 1401 South Flores Street
HOUSTON: 700 N. San Jacinto Street
EL PASO: 1020 East Overland Street
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More Associated Officers Move to San Francisco

LOS ANGELES, Sept. 22.

AS A further step in the concentration of administrative officials of the Associated Oil Co. at San Francisco, which has been the main headquarters of the company for several years, instructions were issued last week for transferring L. J. King, vice president in charge of production, and Joseph Jensen, head field geologist, from the former offices at Los Angeles to San Francisco. Mr. King was preparing this week to complete the transfer of his office next week, and Mr. Jensen will follow shortly.

Due to the fact that all major field operations for the past four years have centered in southern California, Mr. King's office has been in Los Angeles, keeping him in close personal touch with the important field operations. Prior to the merger of the old Amalgamated Oil Co. with the Associated, Mr. Jensen had been head geologist with the Amalgamated, but when the change was made, he was made geologist for the Associated in southern California with headquarters at Los Angeles. After the Associated was purchased by the Tidewater, Mr. Jensen was then given the title of head field geologist. His assistants are H. J. Steiny, for the northern division, and G. D. Robertson, for the southern division, both making their headquarters at Los Angeles. The two assistants, it is understood, will remain in Los Angeles.

Late in August, the portion of the accounting department of the Associated, which had been in Los Angeles, was transferred to San Francisco, thus bringing the entire accounting department of the company together in the same building in the same city.

Early in the year, Axtell J. Byles, who is president of the Tidewater Oil Co., was also made president of the Tidewater Associated Oil Companies, with headquarters at New York, and W. F. Humphrey was made chairman of the board of the Associated Oil Co., with headquarters at San Francisco, having under his supervision the financial affairs of the company, and having operating supervision over the auditor, secretary and treasurer, and credit and law departments.

But during August, it was decided that it would be well for Mr. Byles, who spends most of his time in New York, to change offices with Mr. Humphrey, who resides in San Francisco, headquarters of the Associated. So Mr. Humphrey in August became president, while Mr. Byles became chairman of the board.

Practically every department of the Associated Oil Co. during the past six months has been reorganized, working for greater efficiency, but during this process practically all of the former employes and officials were retained, and many of them received promotions.

It has been understood for several weeks that the Associated officials planned to have Mr. King move his office to San Francisco, to be in closer touch with the higher officials of the company, but the removal of Mr. Jensen had not been expected.

Mr. Jensen had become in southern California more than the head of the geological department of his company, and had through personal effort made himself familiar with field operations in the several phases. The statistical department of the company in southern California has been under Mr. Jensen's personal supervision and he has brought this department to a point where it is most complete in all details.

The Record, published by the Associated Oil Co., recently said of Mr. Jensen: "Mr. Jensen's interest in the related problems has been so great that he also ranks well on drilling, production and petroleum economics. He has been instrumental in helping the Associated Oil Co. to acquire holdings in some of the best and most important producing fields in southern California, so that today the Associated is represented in practically every worth-while producing area in the southern district."

During the past four or five years, Mr. Jensen has become a national authority on petroleum matters in California, through his presentation of prepared papers before national organizations, and the publication of these papers in petroleum trade press.

Houston Gas Supply Expanded

HOUSTON, Sept. 22.—Houston Pipeline Co., gas subsidiary of the Houston Oil Co. of Texas, has authorized construction of 36 miles of pipeline from Freeport to Wadsworth, increasing capacity of its facilities from the Edna compressor station. The board also provided for construction of 28 miles of line from Refugio to White Point and gave authority for doubling its Laredo district gas outlet facilities.

When newly authorized work has been completed the company will have carrying capacity into the Houston industrial district for 130,000,000 cubic feet of gas daily.

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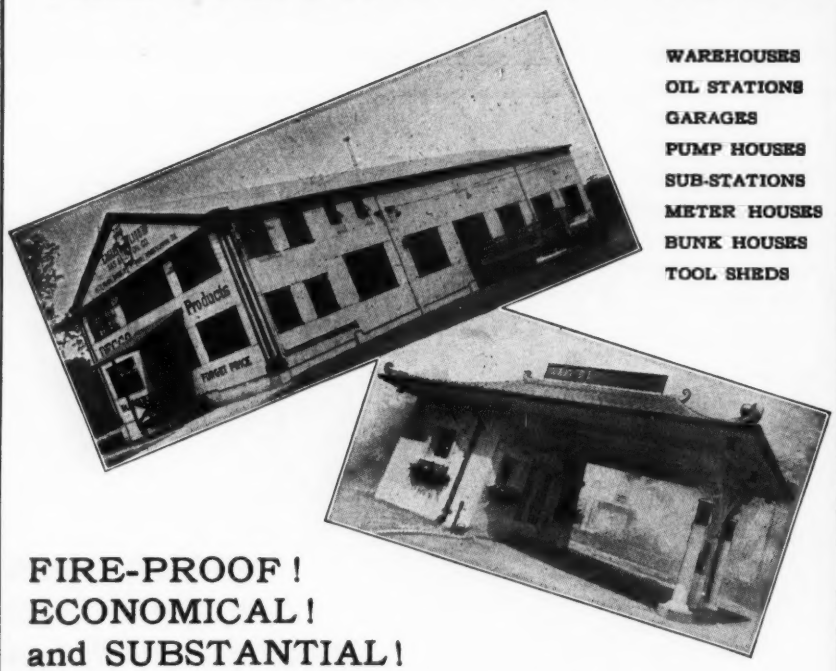

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New Stations Built or Being Built

Toledo, O.—Shell-Union Oil Co., with headquarters in California, will erect distributing station, with water and rail connections, here.

Purcell, Okla.—Anthony Motor Co. is remodeling its building to include filling station.

Lisbon, N. D.—The Texas Co. is building filling station.

Washington, Ia.—Jesse S. Phillips will build filling station.

Columbia, Mo.—Mrs. Marie Creason is completing filling station and tourist park.

Fremont, Neb.—Clarence W. King will build filling station.

Emporia, Kan.—Standard Oil Co. of Indiana will build filling station.

Fredericksburg, Tex.—Citizens Auto Co. is completing filling station.

Kansas City, Mo.—W. H. Barron seeks permit for filling station in Oak Park.

Huntington, W. Va.—Bulk station and office building will be built here by South Penn Oil Co.

Grant City, Mo.—E. F. Bowman is completing filling station at Redding.

Magnolia, Ark.—E. T. Burton is building tourist home, which will include filling station.

Gladwin, Mich.—Gladwin Oil & Gas Co. is completing filling station.

Vinita, Okla.—H. F. Cavett will build filling station.

Camden, N. J.—Mrs. Gertrude Howell will erect filling station.

Malone, N. Y.—Chateaugay Oil Co. will build filling station.

Easthampton, Mass.—Howard R. Harvey of Northampton seeks permit for filling station.

Morristown, N. J.—Bluston Co. seeks permit for filling station.

Conneaut, O.—Standard Oil Co. of Ohio will build filling station.

Mankato, Minn.—Kuehl Oil Co., recently organized, is erecting two-story building and installing seven storage tanks of 70,000 gallon capacity.

Holstein, Neb.—John Maxwell and Roy Gilmore are building filling station.

Fertile, Ia.—Gunder Hegney is building filling station.

Winston-Salem, N. C.—Camel City Service Station will build filling station.

Adel, Ga.—P. J. Castleberry is completing filling station.

Geneva, N. Y.—Dorchester-Rose Oil & Chemical Corp. is building filling station.

Fonda, N. Y.—Philip Kline is building filling station.

Niagara Falls, N. Y.—Crew Levick Co. is building filling station.

Yonkers, N. Y.—Otto Kott is building filling station and garage.

Savannah, Ga.—C. W. Barber will erect service station.

Anderson, Ind.—Roy Benefiel will build service station.

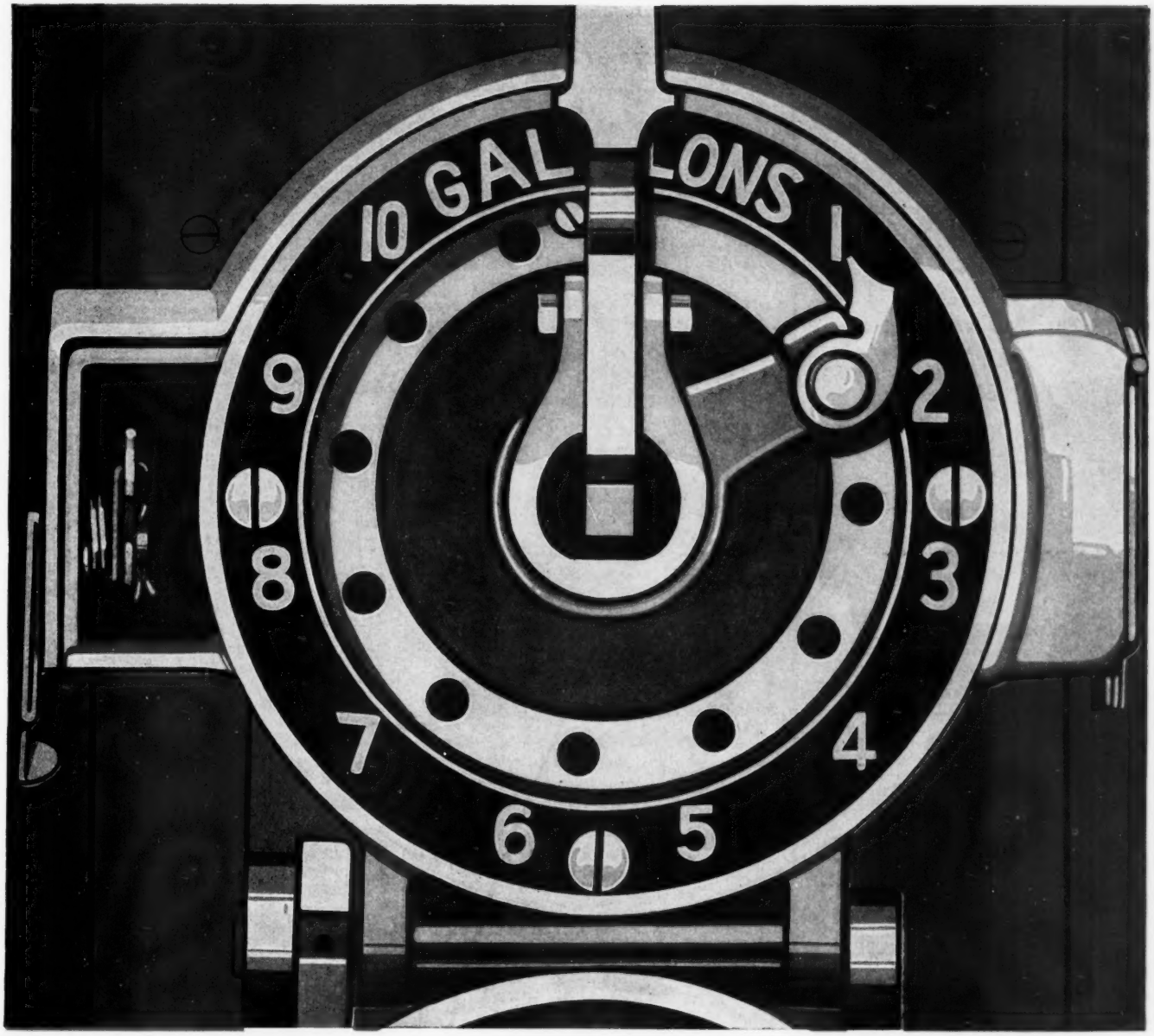
LaClede, Mo.—W. L. Rinehart is erecting filling station.

Chadron, Neb.—Standard Oil Co. of Nebraska is completing filling station.

Menard, Tex.—J. Sam Ford is erecting building which will include filling station.

Arkansas City, Kan.—E. G. Endicott is completing filling station.

Louisville, Ky.—Stoll Oil Refining Co. will build a service station at First and Market Sts. here.



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SEND FOR CATALOG

New Patents

Aug. 23

REFINING

Rectifying Column.—James F. Cyphers, Baltimore, Md. Filed Oct. 2, 1923. No. 1,640,068.

Rectifying Column.—James F. Cyphers, Baltimore, Md. Filed Oct. 6, 1923. No. 1,640,069.

Apparatus for the Distillation of Oil.—Frederick T. Manley, Houston, Tex., assignor to The Texas Co., New York, N. Y. Filed Oct. 10, 1917. No. 1,640,202.

Process of Treating Heavy Hydrocarbons.—Arthur D. Smith and John Perl, Arkansas City, Kans. Filed Jan. 28, 1922. No. 1,640,223.

Tubing Cleaner.—Albert E. Neumeter, Morris, Okla. Filed Feb. 9, 1927. No. 1,639,660.

Deep-Well-Pumping Installation and the Like.—Arthur Crawley Potter, Grantham, England. Filed Feb. 19, 1925. No. 1,639,703.

Gas Anchor for Oil Wells.—Floyd P. Jones, Torrance, Calif. Filed Dec. 11, 1926. No. 1,639,734.

Adjustable Beam Hanger.—Floyd P. Jones, Torrance, Calif. Filed Dec. 11, 1926. No. 1,639,735.

Apparatus for Sinking and Cleaning Oil and Water Wells.—Milford A. King, Los Angeles, Calif. Filed Jan. 24, 1927. No. 1,639,852.

PRODUCTION

Apparatus for Drilling Wells.—Forest J. Lewis, Cleveland, Ohio. Filed Sept. 7, 1926. No. 1,641,176.

Temper Screw.—Gustavus A. Montgomery, Titusville, Pa., assignor to Titusville Forge Co., Titusville, Pa. Filed April 11, 1924. No. 1,641,189.

Well-Drilling Apparatus.—Eggleston Smith, Sioux City, Ia., assignor to Eggleston Drilling Corp. Filed May 10, 1924. No. 1,641,206.

Pipe Wrench.—Harold W. Fletcher, Houston, Tex., assignor to Hughes Tool Co., Houston, Tex. Filed June 27, 1922. No. 1,641,260.

Combined Washer and Shield for Drills.—Harold Wheelock Fletcher, Houston, Tex., assignor to Hughes Tool Co., Houston, Tex. Filed May 13, 1926. No. 1,641,261.

Rotary Drilling Tool.—Howard R. Hughes, Houston, Tex.; R. C. Kuldell administrator of said Howard R. Hughes, deceased. Filed June 8, 1920. No. 1,641,273.

Well-Pumping Apparatus.—John B. Hawley, Jr., Minneapolis, Minn., assignor to Hawley Inventions, Inc., Minneapolis, Minn. Filed Feb. 15, 1926. No. 1,641,329.

Pump Jack.—Charley F. Schaffer, Oakley, Kans. Filed July 22, 1926. No. 1,641,460.

Means for Cutting Oil-Well Castings and Drill Pipe.—Haskell M. Greene, Whittier, Calif. Filed April 8, 1925. No. 1,641,483.

Rotary Casing Swage.—Karl R. Andre, Lynwood, Calif. Filed Sept. 2, 1924. No. 1,641,519.

Pump.—Dwight H. Barnwell, Taft, Calif., assignor to Axelson Machine Co., Los Angeles, Calif. Filed July 25, 1925. No. 1,641,613.

Swivel Rope Socket.—Philip A. Schmuck, Tulsa, Okla. Filed July 17, 1926. No. 1,641,696.

Cement Plug.—Herbert A. Davis and Cleo F. Davis, Torrance, Calif. Filed April 22, 1924. No. 1,641,741.

MISCELLANEOUS

Self-Metering Rotary Pump.—Peter Chris Petersen, Cedar Falls, Ia., assignor to Viking Pump Co., Cedar Falls, Ia. Filed Aug. 21, 1926. No. 1,639,961.

Producing Oxidized Carbon.—Oliver W. Storey and Gordon T. Collinson, Madison, Wis., assignors to C. F. Burgess Laboratories, Inc., Dover, Del. Filed July 7, 1925. No. 1,639,981.

Producing Solid Oxides of Carbon.—Oliver W. Storey, Madison, Wis., assignor to C. F. Burgess Laboratories, Inc., Dover, Del. Filed July 7, 1925. No. 1,639,982.

Process of Purifying Petroleum Products.—Samuel J. Dickey and Raymond C. Wheeler, Los Angeles, Calif., assignors to General Petroleum Corp. of Calif. Filed April 19, 1924. No. 1,639,988.

Pipe-Line Strainer.—Earl J. Drexler, Chicago, Ill. Filed Aug. 3, 1925. No. 1,640,070.

Motor Fuel.—Harry P. Bassett, Cynthiana, Ky. Filed July 26, 1922. No. 1,641,520.

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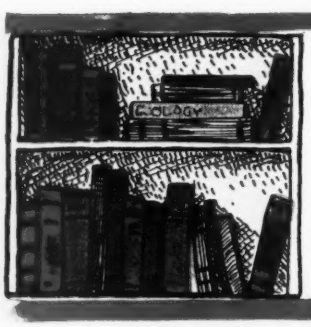

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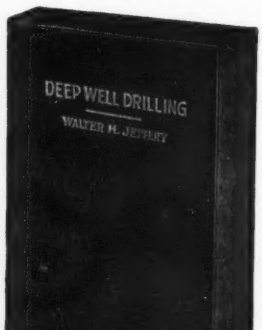

The second edition of "Deep Well Drilling" by Walter H. Jeffery is just out. The material in the first edition has been rewritten thruout with several new chapters on improvements in the art of drilling.

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ON THE LAZY BENCH

National Petroleum News

Most of Us are Sickest When No Oil is Found

IMPERIAL, Neb., Sept. 10.—(U.P.)—At the spot where L. F. Heseman developed stomach nausea, Imperial people are sinking $40,000 in an oil well.

Geologists had their turn; the signs were right; but until Heseman turned up with his stomach that had been "tested and found true," Imperial bankers and business men were skeptical of the project which was started Sept. 5. It is claimed the work will produce a "gusher" that will produce 5,000 barrels of oil daily.

Not content with predicting oil under a specified spot on the ground, Heseman goes "rock" geologists one better. He has told Imperial people they will not only add oil to the list of their resources but assures them he was "sick enough" for about 5,000 barrels a day.

"How did you learn you possessed this peculiar faculty?" the former skeptics asked.

Heseman told a story dating back to his childhood in Pennsylvania when he found it impossible to visit a portion of his father's farm without becoming sick.

Later he visited a friend in Oklahoma and when over an oil field he experienced the same sensation.

It was then the possibility occurred to him that he was supernaturally endowed and when he returned to his former home to find the pasture of his boyhood bespeckled with oil derricks he set out to learn the true status of his stomach.

A backer was found and the first well is said to have been a success.

The hole near Imperial where Heseman felt sickest is to be 22 inches in diameter.—Cleveland *Plain Dealer*, Sept. 11.

* * *

Pete's Marketgram

I have been away pegging aeroplane splashes, but when they got to falling in both the Atlantic and Pacific I came home, arriving just in time to give September morn a bath, then the Mussolini of this office spoke, and here I am.

Well, fellow listeners, both of you slip on the head phones and as the pencil said to the paper, we will get right down to the point.

It seems that the last bozo to bury the hatchet in this business left the handle sticking out and some cookie saw it, grasped it and commenced cutting prices, corners and other things.

We just had our attention called to some three or four points where there is a nine cent filling station price which includes a three cent tax. I hope there is a lot of fun in those points, for it does not take a Solomon to figure that there is no money in such places, in fact, a jobber running such a business must get the same sort of a kick out of it as does a jockey watching a merry-go-round.

The oil jobbing business is a funny thing—that is if one has a rare sense of humor, for it every so often gets into this same ailing condition, then the family banker steps in and administers an anesthetic, then the refiner surgeon cuts out the jobbers' nonsense and the hatchet is again buried and things go along all rosy till some furrow hopper in the gasoline business finds the exposed handle, then there is another helluva mess.

Yes sir, to some folks in the oil jobbing business, the gasoline part is the banana peel on the door step of success, yet some folks go along as optimistically as the fly riding on the spare tire, some even getting as much fun out of it apparently as the two flies in the Ark when they had a horse apiece.

PETE ROLEUM,
Office Boy,
Refiners Consolidated Sales Co.

* * *

Stick to the Friend's Story

"What did the boss say when you told him you sat up all night with the baby?"

"He asked me if she was a blond or a brunette."

—*Pure Oil News*

* * *

Life's Darkest Moment

The return to the home town of the "local boy" who has made good in the big city is rarely, we have understood, what it might be. In connection with this we have to report the particularly sad experience of W. P. Stauder who, after twenty years of absence, alighted at the station of dear old Witt. There was, despite his expectations, no one on the platform whom he knew. No one. Discouraged, he sought out the baggage master, a friend since boyhood. To him at least he would be welcome, and he was about to extend a hearty greeting, when the other spoke first.

"Hello, Bill," he said. "Goin' away?"

—*The Leaderite*

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Refinery - Tank Wagon Markets

National Petroleum News

Western Gasoline Prices Move Upward Slightly as Demand Continues Good

Staff Special
TULSA, Sept. 24.

THE exceptionally good demand for gasolines and kerosenes which has prevailed since the first of the month was experienced again this week in the Mid-Continent refinery market, while the movement of heavy oils was sufficient to keep the entire market in a comparatively strong position.

Gasolines from U. S. Motor grades up experienced slight price advances in all areas. The upward pace was set by higher gravities under the stimulus of a decided increase in both inquiries and orders. The low gravity goods have about seen their best play for the year as their season is rapidly drawing to a close.

The cooler weather which began last Sunday apparently had but little immediate effect on gasoline consumption. Several refiners in this district declared today that a checkup showed their shipments this week had been almost if not actually as large as for the previous week when 124 Mid-Continent refiners reporting weekly operations to NATIONAL PETROLEUM NEWS moved over 43,000,000 gallons of gasoline from the Mid-Continent.

Two or three refiners, however, said that while their shipments had been good this week, the movement was mostly on orders previously booked.

A few refiners continued to move their 58-60 U. S. Motor at 6.125 cents, but that price today apparently was bottom. Others moved their prices above 6.25 cents during the week, with two or three getting sufficient business at 6.50 cents today to be a factor in the market. A majority of refiners in Oklahoma, however, closed the week with a 6.25 cent price.

Prices on 64-66, 390 e.p. and 64-66, 375 e.p. gasolines showed the best price increase. The former moved up approximately three-eighths of a cent while the latter experienced an advance of a quarter of a cent. Blends also were in better demand as cooler weather was reported in northern states, the price of 64-66, 437 e.p. goods swinging above 6 cents today with the commodity comparatively scarce. The higher price also can be attributed in part to the higher natural gasoline prices.

> WICHITA FALLS, Sept. 26.—Reports indicate that today approximately a half million gallons of 64-66, 375 e.p. gasoline were bought for export shipment at a price reported to be 6.75 cents.

Texas refiners report they have relatively little 58-60 U. S. Motor to offer at present, while the demand for higher gravities has been sufficient to keep them in good shape. Two or three export companies were reported inquiring for 64-66, 375 e.p. gasoline at 6.50 cents, f.o.b. north Texas plants, but as far as could be learned no sales had been closed. Domestic business was bringing the refiners 6.75 to 7 cents, with a few sales reported as high as 7 cents for resale, f.o.b. Group 3 freight basis.

Other areas of the Mid-Continent have only a comparatively small amount of gasolines in storage, according to the last weekly operations compilation. In the case of the north Louisiana and Arkansas refiners, there is practically no gasoline in storage, the total reported being about what the refineries have to keep on hand for working stocks.

NATURAL gasolines jumped from three-eighths to a half a cent this week when two or three large buyers who were short goods on previous orders were forced to remain in the market several days before they obtained their requirements.

A few manufacturers said the domestic demand for naturals had slowed up considerably as prices moved up. The bulk of the buying the past week was to cover on orders for both southern and far eastern haul. One or two large manufacturers on the other hand declared one reason they were forced to do heavy buying was because they had received substantial increases in orders from regular customers, as well as more inquiries on new orders.

A slightly easier tone was noted today on the higher grade naturals. Some grade AA was moved at under 6.25 cents, the goods originating at certain points where the advantageous freight rates for movement south and east would not apply.

An export company late in the week inquired for some 41-43 kerosene in north Texas but as far as could be learned obtained only a small amount at 4.25 cents. Domestic demand meanwhile has been excellent, a majority of refiners report, Oklahoma refiners have been getting 4.25 cents and up for their 41-43 w.w. grade, while the 42-44 w.w. grade continued to be scarce.

There has been a real scarcity in Texas with the result that prices are as high as those in Oklahoma. Buying by the Standard Oil Co. of Louisiana as reported last week has made the goods scarce in Arkansas and Louisiana while Kansas refiners have never been able to keep up with demand in that state.

DISTILLATE inquiries have shown a slight increase due probably to colder weather, but no change has been made as far as prices are concerned.

Gas oil in all fields has been steady with goods reported scarce in Texas where occasional inquiries for export continue to be made. A good domestic demand also has been experienced in that area and prices are on a par with Oklahoma.

A few contracts have been made by Louisiana refiners for their zero cold test straw gas oil, but demand so far this year has been below the demand for the same period last year, they report. Some contracts have been made at a flat price of 3.50 cents over the winter months.

Fuel oil prices continued to be pegged at levels established two or three weeks ago. Demand in Oklahoma has picked up slightly. In Texas goods are relatively scarcer and prices have advanced slightly. Odd cars of 24-26 fuel oil were reported moved late in the week as high as 87.5 cents, although the going market continued to be around 82.5 to 85 cents a barrel.

One Oklahoma refiner this week booked a new export order for 15 cars

(*Continued on page* 85)

JENKINS CRACKING PROCESS

PRODUCES QUALITY GASOLINE

Facts from performance

MARKETING CONDITIONS
AND
CRACKING OPERATIONS

As market conditions shift the operator of a Jenkins Cracking Process can vary his operation to suit conditions which give him the greatest percentage returns.

Crude
Topped Crude
Gas Oil
Residium

are all equally adaptable as a charging stock for the Jenkins Process.

GRAVER *Founded 1857* *Corporation*
EAST CHICAGO, INDIANA

NEW YORK Grand Cent. Term. | CHICAGO America Fore Bldg. | TULSA Atlas Life Bldg. | HOUSTON West Building

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

GASOLINE AND NAPHTHA

PENNSYLVANIA	Prices Sept. 26	Prices Sept. 19	Prices Sept. 12
52-54 Naphtha	8.25 – 9.00	8.25 – 8.50	8.25 – 8.50
54-56 Naphtha	8.25 – 9.00	8.25 – 8.625	8.50 – 8.625
58-60 Gasoline	8.25 – 8.75	8.00 – 8.50	8.25 – 8.50
60-62 Str.-run gasoline	9.00 – 9.25	8.75 – 9.25	8.75 – 9.25
64-66 Str.-run gasoline	9.50 – 9.75	9.50 –10.00	9.50 –10.00
68-70 Str-run gas. 350-360 e.p.	9.75 –10.50	10.00 –10.50	10.00 –10.50
OKLAHOMA			
48-50 450 e.p. naphtha	6.00	6.00	6.00
50-52 450 e.p. naphtha	6.00	6.00	6.00
56-58 450 e.p. gasoline	6.00	6.00	6.00
58-60 450 e.p. gasoline	6.00	6.00	6.00
56-58 U. S. Motor, 437 e.p.	**6.125	*6.00 – 6.125	*6.00
58-60 U. S. Motor, 437 e.p.	6.125– 6.50	6.125– 6.25	6.00 – 6.25
60-62 437 e.p. gasoline	**6.25 – 6.75	**6.25 – 6.75	**6.125– 6.75
60-62 400 e.p. gasoline	**6.50 – 7.00	**6.50 – 7.00	**6.25 – 7.00
64-66 390 e.p. gasoline	**6.875– 7.00	**6.50 – 7.00	**6.50 – 7.00
64-66 375 e.p. gasoline	**7.00 – 7.25	**6.75 – 7.25	**6.75 – 7.25
68-70 350-360 e.p. gasoline	*7.25 – 7.50	**7.00 – 7.50	**7.00 – 7.50
KANSAS* (F. O. B. refinery Kansas destination)			
58-60 U. S. Motor 437 e.p.	6.50	6.375– 6.50	6.25 – 6.375
60-62 400 e.p. gasoline	7.00	6.75 – 7.00	6.75 – 7.00
64-66 375 e.p. gasoline	7.25 – 7.50	7.25	7.25
NORTH TEXAS			
48-52 450 e.p. naphtha	†6.00	†6.00	†6.00
56-58 450 e.p. gasoline	5.75 – 5.875	5.75	5.75
58-60 450 e.p. gasoline	5.875– 6.00	5.75	5.75
58-60 U. S. Motor 437 e.p.	6.125– 6.25	6.125	6.00
60-62 400 e.p. gasoline	6.50 – 6.625	6.375	6.25
64–66 390 e.p. gasoline	6.75	6.375– 6.50	6.375
64-66 375 e.p. gasoline	6.875– 7.00	6.50 – 6.75	6.50 – 6.625
68-70 350-360 e.p. gasoline	*7.25	*7.00 – 7.25	*7.00 – 7.25
NORTH LOUISIANA (For Louisiana and differential territory destination)			
58-60 U. S. Motor gasoline	6.50	6.375– 6.50	6.25 – 6.50
ARKANSAS (For Arkansas intrastate shipment)			
56-58 450 e.p. gasoline	6.25	6.25	6.25
58-60 450 e.p. gasoline	6.25	6.25	6.25
58-60 U. S. Motor 437 e.p.	6.375– 6.625	6.25 – 6.50	6.25 – 6.50
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
58-60 U. S. Motor 437 e.p.	**6.25 – 6.50	**6.00 – 6.50	**6.00 – 6.50
CALIFORNIA			
*54-58 U.S. Motor 437 e.p.	7.25 – 8.50	7.25 – 8.50	7.25 – 8.50
*58-61 U.S. Motor 437 e.p.	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
*42-45 Eng. dis. 445-480 e.p.	6.50 – 7.00	6.50 – 7.00	6.50 – 7.00

*2c tax to be added if used in state.

NEW ENGLAND

"These prices have been discontinued in this table and will appear hereafter in the Seaboard market for Boston."

NATURAL GASOLINE

(Note: End point of all grades, not over 375° F.)

OKLAHOMA			
Grade AA, 80-87.9, 90% Recovery	†6.125– 6.25	6.00 – 6.25	5.50 – 5.875
Grade A, 72-79.9, 90% Recovery	†6.125– 6.25	6.00 – 6.25	5.50 – 5.875
Grade BB, 84-92, 85% Recovery	†5.75	5.625– 5.75	5.25 – 5.375
Grade B, 76-83.9, 85% Recovery	†5.75	5.625– 5.75	5.25 – 5.375
Grade C, 80-90, 78% Recovery	†5.625– 5.75	5.625	5.00 – 5.25
NORTH TEXAS (F. O. B. Breckenridge)			
Grade AA, 80-87.9, 90% Recovery	†6.125– 6.25	6.00 – 6.25	5.625– 5.75
Grade A, 72-79.9, 90% Recovery	†6.125– 6.25	6.00 – 6.25	5.625– 5.75
Grade BB, 84-92, 85% Recovery	†5.75	5.625– 5.75	5.25 – 5.375
Grade B, 76-83.9, 85% Recovery	†5.75	5.625– 5.75	5.25 – 5.375
Grade C, 80-90, 78% Recovery	†5.625– 5.75	5.625	5.00 – 5.25
NORTH LOUISIANA (F. O. B. Monroe District)			
Grade AA	†6.25 – 6.375	†6.25	†6.25
Grade BB	†6.00	†6.00	†6.00
Grade C	†6.00	†6.00	†6.00
CALIFORNIA			
75-85, 375-390 e.p. blend	8.00 –10.00	8.00 –10.00	8.00 –10.00

MOTOR FUEL BLENDS

PENNSYLVANIA			
68-70 Blend 437 e.p.	Prices	.....	.....
64-66 Blend 437 e.p.	Temporarily	.....	.....
60-62 Blend 437 e.p.	discontinued	.....	.....
OKLAHOMA			
64-66 Blend 437 e.p.	6.125– 6.25	5.75 – 5.875	5.75 – 6.00

BURNING OILS

PENNSYLVANIA			
45 w.w. kerosene	6.00 – 6.50	6.125– 6.25	6.00 – 6.25
46 w.w. kerosene	6.50 – 7.00	6.50 – 6.625	6.50
47 w.w. kerosene	6.875– 7.25	7.00 – 7.25	7.00
OKLAHOMA			
41-43 w.w. kerosene	4.25 – 4.375	4.25 – 4.375	4.125– 4.25
42-44 w.w. kerosene	4.75	4.75	4.625– 4.75
KANSAS (F. O. B. refinery Kansas destination)			
41-43 w.w. kerosene	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
42-44 w.w. kerosene	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
NORTH TEXAS			
40-42 w.w. kerosene	†4.125– 4.25	†4.00	3.75
41-43 w.w. kerosene	4.25 – 4.375	4.125– 4.25	4.00 – 4.125
NORTH LOUISIANA (For Louisiana and differential territory destination)			
41-43 w w. kerosene	4.375– 4.625	4.50	4.25 – 4.50
ARKANSAS (For intrastate shipment only)			
42-44 kerosene	4.75	4.75	4.50 – 4.75
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
42-44 kerosene	4.50 – 4.75	4.50 – 4.75	4.50
CALIFORNIA			
38-40 w.w. kerosene	5.00 – 5.50	5.00 – 5.50	5.00 – 5.50

NEW ENGLAND

"These prices have been discontinued in this table and will appear hereafter in the Seaboard market for Boston."

NEUTRAL OIL

PENNSYLVANIA Vis.			
	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	34.00 –35.00	34.50 –35.50	34.50 –35.50
180 No. 3 Assoc. Filt.	31.00 –32.50	31.75 –32.50	31.75 –32.50
150 No. 3 Assoc. Filt.	26.50 –28.00	27.75 –28.50	27.75 –28.50
	(Non Viscous)		
34 Grav. 330-340 Flash	7.00 – 8.00	7.00 – 7.50	7.00 – 7.50
36 Min. Neut. 300-305 Flash	6.50 – 7.50	6.50 – 7.00	6.50 – 7.00
OKLAHOMA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
150—No. 3	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
150—No. 4	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
180—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
180—No. 4	9.50 – 9.75	9.50 – 9.75	9.50 – 9.75
180—No. 5	9.25 – 9.75	9.25 – 9.75	9.25 – 9.75
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.50 –10.75	9.50 –10.75	9.50 –10.75
200—No. 5	8.50 –10.50	8.50 –10.50	8.50 –10.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	14.00	14.00	14.00
240—No. 4	13.50	13.50	13.50
240—No. 5	12.00 –13.00	12.00 –13.00	12.00 –13.00
280—No. 3	16.00 –17.00	16.00 –17.00	16.00 –17.00
280—No. 4	15.25	15.25	15.25
280—No. 5	14.00 –15.00	14.00 –15.00	14.00 –15.00
300—No. 5-6	17.00	17.00	17.00
GULF COASTAL Vis. Color	(Viscosity at 100° F., pour test 0)		
100—No. 2 Unfilt. Pale	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
200—No. 3 Unfilt. Pale	9.50 –10.00	9.50 –10.00	9.25 –10.00
300—No. 3 Unfilt. Pale	10.50 –11.50	10.50 –11.50	10.50 –11.50
500—No. 3½ Unfilt. Pale	12.50 –13.00	12.50 –13.00	12.00 –13.00
750—No. 4 Unfilt. Pale	15.00 –15.50	15.50 –16.00	14.50 –15.50
200—No. 5½ Red Oil	8.00 – 8.50	8.00 – 8.50	7.50 – 8.00
300—No. 5½ Red Oil	9.50 –10.00	9.50 –10.00	9.00 –10.00
500—No. 6 Red Oil	10.50 –11.50	10.50 –11.50	10.25 –11.25
750—No. 6 Red Oil	13.50 –14.00	13.50 –14.00	13.00 –14.00
CALIFORNIA Vis. Color	(Viscosity at 100°F.)		
100—No. 2	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
100—No. 3	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00
200—No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
300—No. 3	10.50 –11.00	10.50 –11.00	10.50 –11.00
450—No. 3-3½	13.00 –13.50	13.00 –13.50	13.00 –13.50
550—No. 3-3½	14.50 –15.00	14.50 –15.00	14.50 –15.00
600—No. 3-3½	15.00 –15.50	15.00 –15.50	15.00 –15.50
100—No. 5	6.50	6.50	6.50
200—No. 5	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300—No. 5	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
400—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
500—No. 5	11.00 –11.50	11.00 –11.50	11.00 –11.50
600—No. 5	12.00 –12.50	12.00 –12.50	12.00 –12.50
700—No. 7	14.00 –14.50	14.00 –14.50	14.00 –14.50

CYLINDER STOCKS

**OKLAHOMA			
190-200 Vis. at 210° Brt. St.	31.00 –32.00	31.00 –32.00	31.00 –32.00
150-160 Vis. at 210° Brt. St.	25.00 –27.00	25.00 –27.00	25.00 –27.00
600 E St. 140-150 Vis.-210°	17.00 –18.00	17.00 –18.00	17.00 –18.00
600 St. Ref. Olive Green	9.00 –10.00	9.00 –10.00	9.00 –10.00
600 St. Ref. Dark Green	7.00 – 8.00	7.00 – 8.00	7.00 – 8.00
Black Oil	5.00	5.00	5.00
PENNSYLVANIA	(1-inch Immersion Test)		
600 Steam Refined	9.50 –10.25	9.00 –10.00	9.50 –10.50
650 Steam Refined	12.00 –12.50	11.50 –12.50	12.00 –12.50
600 Flash	16.50 –17.50	16.50 –17.50	16.00 –17.00
625 Flash	27.50 –28.50	27.00 –28.00	27.00 –28.00
600 Warren E	18.00 –19.00	18.00 –19.00	18.00 –19.00
600 Oil City E	17.00	17.00 –17.50	17.00 –17.50
600 D Filtered	25.50 –26.00	25.50 –26.00	25.50 –26.00
Cold Test Stocks (brt. filt.)	34.00 –34.50	34.50 –35.50	34.50 –35.50
Cold Test Stock (dark filt.)	31.50 –32.50	33.00 –34.00	33.00 –34.00

(Note—Prices of total immersion test goods average 1 to 3 cents per gallon higher)

†PRICES NOMINAL ††ONLY ONE REFINER QUOTING *QUOTATIONS ONLY **REPRESENTS BOTH SALES AND QUOTATIONS

CO-RE-CO

"Casting bread upon the waters", modernized—

The modern way to cast your bread upon the waters is to give the customers who ask for a "quart of oil" - - - - CORECO 100% Pennsylvania Motor Oil. They'll be back and inquire the name of the oil you sold them. CORECO 100% Pennsylania Motor Oil Customers stay sold. You can sell them five gallon drums without any trouble at all.

CORECO dealer proposition is especially attractive, for instance, note the prices.

"CORECO" PRICES
Packages Included

	55 Gal.	30 Gal.	15 Gal.	5 Gal.	1 Gal.
Light	.53	.55	.60	.61	.77
Medium	.56	.58	.63	.64	.80
Heavy	.61	.63	.68	.69	.85
Ex. Heavy	.66	.68	.73	.74	.90
Special Duty	.71	.73	.78	.79	.95

Prices f. o. b. Oil City, Penna.

Write or wire for details.

CONTINENTAL REFINING CO.
OIL CITY PENN'A

CORECORECOREC

Refinery Markets on Wax and Heavy Oil Products

Prices given below are in cents per gallon, F. O. B. refinery, except where $ is shown

(For quick reference to Refinery prices, get the OIL PRICE HANDBOOK, published annually)

WAX

PENNSYLVANIA Per Pound, New York	Prices Sept. 26	Prices Sept. 19	Prices Sept. 12
122-124 white crude scale.	3.125	3.00 – 3.125	3.125
124-126 white crude scale.	3.125– 3.25	3.00 – 3.125	3.125
OKLAHOMA			
**124-126 Semi-refined...	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
CALIFORNIA			
White crude scale, per pound	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00

FUEL OIL

PENNSYLVANIA			
36-40 fuel oil.	4.625– 4.75	4.50 – 4.75	4.625– 4.75
30-34 fuel oil.	4.50 – 4.625	4.50 – 4.75	4.50 – 4.75
28-32 fuel oil.	4.50 – 4.625	4.50 – 4.75	4.50 – 4.75
OKLAHOMA			
38-40 straw distillate....	3.125– 3.25	3.125– 3.25	3.125– 3.25
36-38 straw distillate....	3.00	3.00	3.00
32-36 gas oil, cracked...	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
32-36 gas oil, str. reduced	2.50 – 2.625	2.50 – 2.625	2.50 – 2.625
28-30 fuel oil (in bbls.).	$0.95 –$1.00	$0.95 – 1.00	$0.95 – 1.00
26-28 fuel oil (in bbls.).	$0.90 –$0.95	$0.90 – 0.95	$0.90 – 0.95
24-26 fuel oil (in bbls.).	**$0.85–$0.875	**$0.85– 0.875	**$0.85 – 0.875
22-26 fuel oil (in obls.).	**$0.825–$0.85	**$0.825– 0.85	**$0.825– 0.85
18-22 fuel oil (in bbls.).	**$0.775–$0.825	**$0.775–0.825	**$0.775– 0.825
16-18 fuel oil (in bbls.).	**$0.75–$0.80	**$0.75– 0.80	**$0.75 – 0.80
14-16 fuel oil (in bbls.).	**$0.75–$0.80	**$0.75– 0.80	**$0.75 – 0.80
KANSAS (F. O. B. refinery Kansas destination.)			
38-40 straw distillate.....	3.50 – 3.75	3.50 – 3.75	3.50 – 3.75
36-38 straw distillate.....	3.25 – 3.50	3.25 – 3.50	3.25 – 3.50
32-36 gas oil.....	2.75 – 2.875	2.75 – 2.875	2.75 – 2.875
24-26 gas oil.....	*$0.95 –$1.05	*$0.95– 1.05	*$0.95 – 1.05
18-22 fuel oil.....	*$0.85 –$0.90	*$0.85– 0.90	*$0.85 – 0.90
NORTH TEXAS			
38-40 straw distillate.....	3.00 – 3.125	3.00	3.00
32-36 gas oil, cracked....	2.50 – 2.625	2.50	2.50
32-36 gas oil, uncracked..	2.50 – 2.625	2.50	2.50
24-26 fuel oil (in bbls.)...	$0.85	$0.80 – 0.825	$0.80

GULF COASTAL	Prices Sept. 26	Prices Sept. 19	Prices Sept. 12
Fuel (in bbls.).....	$1.60 –$1.65	$1.60 –$1.65	$1.60 –$1.65
Gas oil.....	4.00 – 4.25	4.00 – 4.25	4.00 – 4.25
NORTH LOUISIANA (For Louisiana and differential territory destination)			
32-36 gas oil, dark.....	3.00 – 3.25	3.00 – 3.125	3.00 – 3.125
32-36 gas oil, straw.....	3.00 – 3.25	3.00 – 3.125	3.00 – 3.125
16-20 fuel oil (in bbls.)...	$1.10 –$1.15	$1.10 – 1.125	$1.10 – 1.15
ARKANSAS (For Arkansas intrastate shipment only)			
32-36 gas oil.....	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
28-32 gas oil.....	3.00 – 3.25	3.00 – 3.25	3.00 – 3.25
Road oil.....	$1.25 – 1.30	$1.25 – 1.30	$1.25 – 1.30
ARKANSAS (F. O. B. Arkansas refineries for interstate shipment)			
28-32 gas oil.....	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
Smackover crude fuel....	$1.10 – 1.15	$1.10 – 1.15	$1.10 – 1.15
Road oil.....	$1.15 – 1.25	$1.15 – 1.25	$1.15 – 1.25
CALIFORNIA (F. O. B. San Joaquin Valley. At San Francisco, 4c per bbl. more)			
14-18 fuel oil (in bbls.)...	$0.65 –$0.90	$0.65 –$0.90	$0.65 –$0.90
14-18 Bunker oil (in bbls.)	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00
30-34 gas oil (in bbls.)	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00
27 Plus Diesel oil (in bbls.)	$0.85 –$1.00	$0.85 –$1.00	$0.85 –$1.00
NEW ENGLAND			

These prices have been discontinued in this table and will appear hereafter in the Seaboard market for Boston.

PETROLATUMS

PENNSYLVANIA (In cents per pound in tank cars; in barrels, in car lots ¼c per pound more.)			
Snow White.....	8.50	8.50	7.50 – 7.75
Lily White.....	7.50	7.50	6.50
Cream White.....	6.50	6.50	5.50
Light Amber.....	4.00	4.00	2.875– 3.00
Amber.....	3.75	3.75	2.625– 2.75
Red.....	3.125	3.125	2.375
Green No. 5 color.....	2.50	2.50	1.75

**PETROLEUM COKE

(Per ton in car lots)

Lump.....	$5	$5	$5
Still run.....	$3	$3	$3
Breeze.....	$2	$2	$2

† Prices Nominal. †† Only one refiner quoting. * Quotations only. ** Represents both sales and quotations.

(*Continued from page* 81)

of bright stock. The price was not revealed. Both neutral oil and cylinder stock prices have remained steady with movement good, refiners reported.

Inquiries for Oklahoma wax have been good recently but a majority of refiners say they were completely sold up for September delivery. Several began this week to prepare quotations for October, and the consensus of opinion was that the quotations would range from 2.75 to 3 cents a pound, with the latter figure probably prevailing in most instances. One large Oklahoma refiner was reported to be completely out of wax at present, with indications he would be able to quote on but little business over next month.

Auto Output Declines; Registrations Fall

NEW YORK, Sept. 21.—*Automotive Industries* this week said:

Automobile sales are receding in accord with the seasonal trend, after an August and early September volume that established new records for several companies. The stimulus of new models and price cuts is not being felt as strongly as a short time ago and the market therefore is taking its usual autumn downward turn.

On the whole, however, the situation can be considered fairly satisfactory for a majority of the producers. The year's sales so far have been very high for a good many companies, both large and small. Two or three of the largest factories have suffered and perhaps an equal number of the smaller ones. The distribution of sales has been unusually spotty, and the profit situation is much the same. Among retailers the year's results have been even more variable.

GULF COASTAL WATER SHIPMENTS, AUGUST COMPARED WITH JULY

(All figures in barrels of 42 gallons)

Company—Port	Coastwise Refined July	Coastwise Refined August	Export Refined July	Export Refined August
Standard of Louisiana, Baton Rouge	1,259,830.00	982,395.00	1,163,625.00	831,899.00
The Texas Company, Port Arthur	1,684,410.00	1,438,431.00	308,879.00	301,402.00
Gulf Refining Co., Port Arthur	2,801,534.93	2,928,479.03	179,364.92	136,339.22
Magnolia Pet. Co., Beaumont	1,458,691.23	1,176,451.69*	.....	.....
Sinclair Refg. Co., Houston	420,369.15	445,935.82	142,953.40	79,789.22
Humble Oil & Refg. Co., Baytown	926,516.8	1,832,304.71	794,012.14	1,243,681.65
Marland Oil Co., Texas City	.....	.....†	.....	.....
Atlantic O. Producing Co., Atreco	109,342.96	104,914.15	.....	.....
Galena Signal O. Co., Houston	112,000.00	40,000.00	103,000.00	28,000.00
Deepwater O. Refineries, Houston	.....	.....	40,000.00	.....
Keen & Woolf O. Co., Houston	60,000.00	.....	.....	.....
Pure Oil Company, Smiths Bluff	439,254.84	285,611.39	.....	.....
Totals	9,271,949.59	9,234,522.79	2,731,834.46	2,621,111.09
	Coastwise Crude		**Export Crude**	
Standard of Louisiana, Baton Rouge	44,831.00	61,295.00	.....	65,374.00
The Texas Company, Port Arthur	.....	.....	.....	.....
Gulf Refining Co., Port Arthur	.....	.....	.....	.....
Magnolia Pet. Co., Beaumont	1,143,822.45	797,833.58*	.....	.....
Sinclair Refg. Co., Houston	440,623.33	439,422.08	.....	.....
Humble Oil & Refg. Co., Texas City	1,656,979.00	1,894,023.00	.....	.....
Baytown	817,243.00	1,081,530.00	.....	.....
Ingleside	43,472.00	15,591.00	.....	.....
Neches Terminal	58,930.00	133,780.00	.....	.....
Atlantic O. Producing Co., Atreco	291,691.08	221,166.88	.....	.....
Pasadena	17,849.68	44,835.45‡	.....	.....
Beaumont	452,488.77	381,935.30	.....	.....
Smith's Bluff	.....	.....	.....	.....
Swiftsaure Pet. Co., Texas City	.....	136,538.00	.....	.....
Pure Oil Company, Smiths Bluff	814,481.99	654,220.66	.....	.....
Sun Oil Company, Sabine Pass	636,877.00	.....†	.....	.....
Totals	6,419,289.30	5,862,170.95	.....	65,374.00

*Magnolia Petroleum Company makes no distinction in reports between coastwise and export shipments.

†No report.

‡Handled through terminal of Crown Central Petroleum Corp.

Colder Weather Spurs Domestic Gas and Fuel Demand

Staff Special

CHICAGO, Sept. 24

LOWER temperatures over the greater portion of the Standard of Indiana territory this week caused a rush on the part of domestic users to lay in a supply of gas and fuel oils. One seller reported receiving more inquiries for fuel oil this week than he had received all summer.

Higher gravity gasolines were in considerably better demand. Prices were advanced by nearly all sellers. Demand for 58-60 U. S. Motor gasoline was not quite as heavy as last week; prices continued firm around 6.25 cents, with a few sales at fractionally above and below this figure.

The 60-62, 437 e.p. gasoline was quiet early in the week with a majority of sellers asking 6.25 cents flat. On Wednesday it moved at 6.25 to 6.375 cents and Thursday on to 6.375 cents flat. The 60-62, 400 e.p. gasoline was sold at 6.50 to 6.625 cents on Monday and Tuesday, 6.625 cents flat on Wednesday and advanced to 6.625 to 6.75 cents Thursday. The 64-66, 375 e.p. gasoline began the week at 6.75 to 6.875 cents, increased slightly to 6.875 to 7 cents on Tuesday and continued firm at those figures the rest of the week. Some sellers were quoting up to 7.125 cents.

Demand for 41-43 w.w. kerosene was reported good in some quarters throughout the week, while others said they had done little business. A refiner reported demand especially good in Wisconsin, Minnesota and the Dakotas early in the week. Bulk of sales were made at 4.25 cents, with some sellers reporting fair movement at 4.375 and 4.50 cents.

Distillate price was steady throughout the week 38-40 grade selling at 3.125 to 3.375 cents Monday, advanced to 3.25 to 3.375 cents on Tuesday and continued at those figures over the rest of the week. Ordinary dark gas oil of 32-36 gravity began the week at 2.50 to 2.625 cents. Bulk of sales on Tuesday and Wednesday were at 2.625 cents flat but dropped back to first of week level on Thursday and continued throughout the remainder of the week at those figures.

The 32-36 dark gas oil with a zero cold test was unchanged throughout the week at 2.625 to 2.75 cents. The 32-36 straw zero gas oil was steady all week at generally unchanged prices. It was 2.875 to 3.125 cents Monday, increased to 3 to 3.125 cents Tuesday and remained at these figures over the rest of the week.

Usual run of small industrial orders were received for fuel oil this week, majority of the trade reported. The 28-30 fuel oil remained unchanged over the week at $1.00 to $1.05 after being at $0.95 to $1.05 on Monday. The 24-26 and 22-26 fuel oils were at $0.825 to $0.85 on Monday. They increased slightly to $0.85 flat on Tuesday and the bulk of sales throughout the week were at this figure. The 18-22 grade fuel oil remained unchanged over the week at $0.80 to $0.825. Smackover quotations unchanged at $1.10 to $1.15.

Mostly fair weather is the forecast for the Standard of Indiana territory next week, with some periods of precipitation during the first part of the week. The temperatures will be below seasonal normal during the first part of the week and will rise slightly above the seasonal normal during the closing days.

Gulf Lube Market Holds Up

HOUSTON, Sept. 24.—Gulf Coastal lubricants, which two weeks ago began to show market strength, are holding at the improved price levels. Manufacturers report satisfactory sales and generally better market conditions.

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Week's Price Changes Tank Wagon Markets

Gasoline Changes

Standard of Indiana—T.w and s.s prices of gasoline were reduced at these Indiana points, **Sept. 20:** Indianapolis, t.w. cut 2 cents, s.s. 4 cents, both to 15.2 cents; Muncie, t.w. cut 2.3 cents, s.s. 4.3 cents, both to 15 cents; Richmond t.w. cut 2.4 cents, s.s. 4.4 cents, both to 15 cents.

On **Sept. 21**, these points were cut: South Bend, t.w. 2.4 cents, s.s. 4.4 cents, both to 15 cents; and Fort Wayne, t.w. 3.4 cents, s.s. 5.4 cents, both to 14 cents. All prices include 3 cent state tax.

Continental Oil—T.w. and s.s. prices gasoline reduced 2 cents, Denver, to 16 cents and 18 cents, respectively, including 3 cent state tax, **Sept. 20.**

Crude Price Changes

Sept. 20.—The 10 cent cut on Smackover crude posted on Sept. 17 by the Louisiana Oil Refining Corp. was met on Sept. 20 by these companies: Standard Oil Co. of Louisiana, Magnolia Petroleum Co., Shreveport-El Dorado Pipe Line Co., and Atlantic Oil Producing Co. It was met on Sept. 23 by The Texas Co.

Los Angeles Shipments

Daily average movement of all petroleum products out of Los Angeles harbor week ended Sept. 17 was 196,706 barrels against 230,142 barrels previous week and 182,490 barrels week ended Sept. 3.

The movement last week was divided as follows: Pacific foreign—64,894 barrels of crude and 302,959 barrels of fuel. Atlantic domestic—170,948 barrels of crude, 328,810 barrels of fuel and 244,254 barrels of gasoline. Atlantic foreign—93,403 barrels of fuel, 150,212 barrels of gasoline and 21,457 barrels of Diesel.

Foreign Opportunities

Reserved information may be obtained from the Bureau of Foreign and Domestic Commerce, Washington, and its district and cooperative offices by duly registered firms and individuals upon written request by opportunity number. The Bureau does not furnish credit ratings or assume responsibility as to the standing of foreign inquirers; the usual precautions should be taken in all cases, and where no references are offered it does not necessarily imply that satisfactory references could not be given. Correspondence may be in English unless otherwise stated.

27308.—**Paraffin,** Hamburg, Germany, agency.

27349.—**Gasoline in steel barrels,** Johannesburg, South Africa, agency and purchase.

27356.—**Paraffin and paraffin chips,** Berlin, Germany, purchase.

27357.—**Asphalt,** Hamburg, Germany, agency and purchase.

Tank Wagon, Service Station Markets for Gasoline and Kerosene In United States Territories and Canada

(OIL PRICE HANDBOOK has t.w. and s.s. markets for whole year arranged for quick reference)

These Prices In Effect September 26, 1927

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Atlantic City, N. J.	16	2	18	20	14
Newark, N. J.	16	2	18	20	14
Annapolis, Md.	16	4	20	23	12
Baltimore, Md.	16	4	20	23	10
Cumberland, Md.	16	4	20	23	14
Washington, D. C.	16	2	18	21	12
Danville, Va.	16	4½	20.5	*	14
Norfolk, Va.	16	4½	20.5	23.5	12
Richmond, Va.	14	4½	18.5	21.5	14
Roanoke, Va.	16	4½	20.5	23.5	14
Petersburg, Va.	16	4½	20.5	23.5	14
Williamsburg, Va.	16	4½	20.5	23.5	14
Charleston, W. Va.	16	4	20	23	14
Clarksburg, W. Va.	16	4	20	21	14
Keyser, W. Va.	16	4	20	*	14
Parkersburg, W. Va.	13	4	17	20	14
Wheeling, W. Va.	16	4	20	23	14
Charlotte, N. C.	16	4	20	23	14
Hickory, N. C.	16	4	20	23	14
High Point, N. C.	16	4	20	20	14
Mt. Airy, N. C.	16	4	20	23	14
Salisbury, N. C.	16	4	20	23	14
Charleston, S. C.	15	5	20	23	14
Columbia, S. C.	15	5	20	23	14

*Dealers set own prices. S. O. New Jersey does not operate station.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

*New York City	17	0	17	21	15
Albany, N. Y.	17	0	17	19	15
Buffalo, N. Y.	15	0	15	18	14
†Rochester, N. Y.	13	0	13	16	13
Syracuse, N. Y.	17	0	17	19	15
Boston, Mass.	17	0	17	18	15
Augusta, Me.	17	3	20	22	15
Manchester, N. H.	17	2	19	21	15
Burlington, Vt.	17	3	20	22	15

*In steel barrels.

†It is reported that S. O. New York is selling a second grade of gasoline at Rochester, 4c below the above posted prices which apply on its Socony grade.

ATLANTIC REFINING

Pittsburgh, Pa.	16	*	16	*22	14
Philadelphia, Pa.	15	*	15	*21	14
Allentown, Pa.	16	*	16	*22	14
Erie, Pa.	12	*	12	*18	14
Scranton, Pa.	16	*	16	*22	14
Altoona, Pa.	16	*	16	*22	14
Dover, Del.	16	3	19	22	14
Wilmington, Del.	16	3	19	22	14
Providence, R. I.	17	2	19	19	15
Boston, Mass.	17	0	17	17	15
Springfield, Mass.	17	0	17	17	15
Worcester, Mass.	17	0	17	17	15
Hartford, Conn.	19	2	21	22	15
New Haven, Conn.	19	2	21	21	15

*3-cent state tax is collected by retail dealer and paid by him directly to state.

S. O. KENTUCKY

Lexington, Ky.	13	5	18	21	15.5
Louisville, Ky.	14	5	19	22	15
Covington, Ky.	14	5	19	22	15.5
Clarksdale, Miss.	13	4	17	20	12.5
Gulfport, Miss.	††14.5	4	††18.5	21.5	14
Jackson, Miss.	13	4	17	20	13.5
Natchez, Miss.	12.5	4	16.5	19.5	14
Vicksburg, Miss.	12.5	4	16.5	19.5	14
Birmingham, Ala.	14	4	18	21	15.5
Mobile, Ala.	13	4	17	20	15
Montgomery, Ala.*	15	4	19	22	16.5
Atlanta, Ga.	12	4	16	18	†15.5
Augusta, Ga.	15	4	19	22	†16.5
Macon, Ga.	15	4	19	22	†16.5
Savannah, Ga.	12	4	16	18	†14.5
Jacksonville, Fla.°	10	5	15	18	14
Miami, Fla.°	12	5	17	20	15.5
Tampa, Fla.	9	5	14	17	14
Pensacola, Fla.°	**11	5	**16	19	15

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included.

†Georgia kerosene prices include 1c state tax.

°Florida gasoline prices include ½c inspection fee.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. INDIANA

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Chicago, Ill.	14	2	16	18	12
Decatur, Ill.	8.5	2	10.5	12.5	12.1
E. St. Louis, Ill.	13.1	2	15.1	17.35	11.2
Joliet, Ill.	14.4	2	16.4	18.4	12.3
Peoria, Ill.	10	2	12	12	12.1
Quincy, Ill.	14.2	2	16.2	18.2	11.9
Indianapolis, Ind.	12.2	3	15.2	15.2	13.2
Evansville, Ind.	14	3	17	19	13
South Bend, Ind.	12	3	15	15	13.4
Detroit, Mich.	14.8	3	17.8	19.8	13.7
Grand Rapids, Mich.	14.7	3	17.7	19.7	13.6
Saginaw, Mich.	14.9	3	17.9	19.9	13.8
Green Bay, Wis.	14.6	2	16.6	18.6	12.4
Madison, Wis.	14.3	2	16.3	18.3	12.1
Milwaukee, Wis.	14.1	2	16.1	18.1	11.9
La Crosse, Wis.	15.2	2	17.2	19.2	13
Minneapolis, Minn.	12	2	14	14	12.9
Duluth, Minn.	13.5	2	15.5	17.5	12.9
Mankato, Minn.	15.1	2	17.1	19.1	12.7
Des Moines, Ia.	14	3	17	19	12.3
Davenport, Ia.	14.5	3	17.5	19.5	12.3
Sioux City, Ia.	14.1	3	17.1	19.1	11.9
Mason City, Ia.	14.5	3	17.5	19.5	12.3
St. Louis, Mo.	*13.6	2	15.6	17.9	11.3
Kansas City, Mo.	†12.9	2	14.9	16.9	10.6
St. Joseph, Mo.	†12.5	2	14.5	16.5	11.2
Fargo, N. D.	15	2	17	19	14.9
Grand Forks, N. D.	17.2	2	19.2	21.2	15.2
Minot, N. D.	16.9	2	18.9	20.9	14.9
Pierre, S. D.	15.5	4	19.5	21.5	13.9
Huron, S. D.	12.5	4	16.5	18.5	13.9
Wichita, Kans.	12.8	2	14.8	16.8	10.8
Bartlesville, Okla.	12.8	3	15.8	17.8	10.8

S. O. Indiana Q. D. A. schedule on tank wagon deliveries of gasoline, effective March 3 thru territory, except Wisconsin effective March 4: 50 gals. and over on delivery, 1c discount, except in city of Chicago where 1c discount applies on 100 gals. and over; 6,000 gals. and over per month, 1½c; 10,000 gals. and over per month, 2c; 15,000 gals. and over per month 3c, except latter discount does not apply in Chicago.

Service station discounts: 200 gals. or more per month, and 2400 gals. or more per year, 2c per gal.

March 1, 1c discount on kerosene in 50 gal. dumps thru territory.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. NEBRASKA

Omaha, Neb.	14.25	2	16.25	16.25	12.25
McCook	12.75	2	14.75	16.75	11.50
Norfolk	14.75	2	16.75	18.75	12.75
North Platte	15.75	2	17.75	19.75	13.50
Scottsbluff	15.25	2	17.25	19.25	13.00

CONTINENTAL OIL

Denver, Colo.	13	3	16	18	12.5
Pueblo, Colo.	15	3	18	20	14.5
Grand Junction, Colo.	18.5	3	21	23.5	18
Casper, Wyo.	15	3	18	20	13
Cheyenne, Wyo.	16	3	19	21	14.5
Butte, Mont.	19	3	22	22	19
Helena, Mont.	19.5	3	22.5	24.5	19
Salt Lake City, Utah	17.5	3½	21	23	17
Boise, Ida.	19.5	4	23.5	25.5	19
Twin Falls, Ida.	19.5	4	23.5	25.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	19	3	22	26	21.5
Los Angeles, Cal.	13.5	3	16.5	20.5	15.5
Fresno, Cal.	14	3	17	21	16.5
San Francisco, Cal.	14	3	17	21	15.5
Reno, Nev.	18	4	22	26	19
Portland, Ore.	14.5	3	17.5	21.5	16.5
Seattle, Wash.	14.5	2	16.5	20.5	16.5
Spokane, Wash.	18.5	2	20.5	24.5	20.5
Tacoma, Wash.	14.5	2	16.5	20.5	16.5

S. O. LOUISIANA

Little Rock, Ark.	13	5	18	21	12
Alexandria, La.	13	2	15	18	†14
Baton Rouge, La.	12	2	14	17	†12.5
Lake Charles, La.	13.5	2	15.5	18.5	†14
New Orleans, La.	*12.5	2	*14.5	*18.5	*14
Shreveport, La.	13.5	2	15.5	18.5	†13
Lafayette, La.	13	2	15	18	†13.5
Bristol, Tenn.	16	3	19	22	14
Chattanooga, Tenn.	16.5	3	19.5	22.5	15
Knoxville, Tenn.	16.5	3	19.5	22.5	15
Nashville, Tenn.	15	3	18	21	15
Memphis, Tenn.	12	3	15	18	14

*New Orleans gasoline prices include 1c parish tax in addition to 2c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

S. O. OHIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
All Ohio points	16	3	19	21	14

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	3	15	18	9
Oklahoma City	12	3	15	18	9
Tulsa, Okla.	12	3	15	18	9
Fort Smith, Ark.*	11	*3	14	17	12
Little Rock, Ark.	11	5	16	18	12
Texarkana, Ark. *	12	*3	15	18	12
Dallas, Tex.	14	3	17	17	11
Fort Worth, Tex.	13	3	16	16	10
Houston, Tex.	14	3	17	17	15
San Antonio, Tex.	13	3	16	16	11
El Paso, Tex.	15	3	18	18	16

*Within City of Texarkana and Fort Smith, the state tax on gasoline is 3c per gal. conforming with the Texas state tax. In these two districts outside of the city the 5c Arkansas tax applies.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M. & P. Naphtha	Cleaner Naphtha
Chicago	16	18	18
Detroit	17.7	19.7	19.7
Kansas City	16.2	†18.2	†18.2
Milwaukee	16.7	*20.7	*20.7
Minneapolis	*20	*22	*22
St. Louis	15.9	17.9	17.9
New York	...	19	....

*Includes 2c state tax.

†Includes 1c city tax.

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

ONTARIO

	Gasoline T.W.	Gasoline Tax	Gasoline Total T.W.	Gasoline Total S.S.	Oil T.W.
Toronto	19.5	3	22.5	26	21
Ottawa	19.5	3	22.5	26	21
Cochrane	24.5	3	27.5	36	26
Ft. William	24.5	3	27.5	31	23.5

MANITOBA

Winnipeg	24.5	3	27.5	31	23.5

SASKATCHEWAN

Regina	27.5	0	27.5	32	26.5

ALBERTA

Edmonton	26.5	3	29.5	33	25.5
Calgary	24.5	3	27.5	31	23.5

BRITISH COLUMBIA

Vancouver	21	3	24	27	22

QUEBEC

Montreal	20.5	3	23.5	27	21
Quebec City	22.5	3	25.5	31	23
Three Rivers	22.5	3	25.5	30	23

NEW BRUNSWICK

St. John	24.5	3	27.5	32	24
Moncton	24.5	3	27.5	32	24

NOVA SCOTIA

Halifax	24.5	3	27.5	32	24
Sydney	26.5	3	29.5	34	26

PRINCE EDWARD ISLAND

Charlottetown	24.5	3	27.5	31	24

Note: In districts surrounding these points 1c additional is added to city price.

Kerosene Advance on Seaboard; Gasoline Market Sags

Staff Special
NEW YORK, Sept. 24

AN ADVANCING kerosene market together with a further recession in gasoline prices were the outstanding features in eastern seaboard markets this week. Prices of kerosene along the Atlantic coast advanced 0.25 cents. The sag in the gasoline markets at New York and Philadelphia began about a week ago when one or two resale agents found it necessary to reduce their quotations from 8.25 to 8 cents to get business which they felt was justly theirs. During most of this week, the position maintained by the majority of the larger refiners was unchanged. They asserted they could see no justification for prices to the jobbing trade slipping below 8.25 cents, and refused to meet 8-cent competition. Toward the end of the week, however, one important refiner in the vicinity of New York reduced his price to 8 cents and it was felt by a number of the trade that this price would be the general going market next week.

Doubtless the fact that California U. S. Motor gasoline was laid down in New York harbor at 7.50 cents this week had a great deal to do with the easier situation on the seaboard. This price is approximately 0.5 cent lower than the last known deal closed for California goods.

Several dealers also pointed to the fight which has been going on for Ohio business as a probable cause of lower prices in the east. Competition between Group 3 and Louisiana refiners for Ohio business has been particularly keen the last week or two. One Louisiana refiner has been putting gasoline into Ohio at a price that figures back considerably less than 6 cents, Group 3, and the fight has gone to the extent that gasoline is working its way into eastern Ohio, a section of the state that eastern refiners are able to ship to under normal circumstances. Consequently gasoline ordinarily going into eastern Ohio is piling up in the east.

GASOLINE prices at Baltimore for business competing with New York harbor and Philadelphia gasoline were lowered 0.25 cent by one or two sellers but prices for nearby shipment were generally unchanged. Further south on the seaboard, there was no material change, although one refiner was reported to be offering U. S. Motor at 7.50 cents, f.o.b. Savannah terminal. The majority of sellers at Savannah and Jacksonville, however, continued to quote 7.75 to 8 cents.

There was little spot buying of any consequence noted in the New England district. Reports indicated that jobbers in this section covered on their September requirements at 8.25 cents the first of the month and additional buying would not be forthcoming until late this month. The majority of sellers were holding U. S. Motor gasoline at 8.50 cents, f.o.b. refinery or seaboard terminal.

Although there has been comparatively little demand for kerosene, a reported scarcity of goods has caused prices to advance. Standard Oil Co. of New Jersey moved its price for water white kerosene up another 0.5 cent on Sept. 19. Water white is now quoted at 7.50 cents a gallon by this company. Other refiners in New York harbor hold this commodity for 6.75 cents, although a 0.25 cent advance to 7 cents was made by one large refiner Sept. 23.

Demand for heavier burning oils failed to improve. Gas oil, 28-34 gravity, was still available at 5 cents a gallon, New York, although one or two sellers advanced quotations to 5.25 cents. Furnace oil was unchanged at 6 cents.

Gulf Export Market is Quiet; Only One Mixed Cargo Sold

Staff Special
NEW YORK, Sept. 24

ACTIVITY of foreign buyers failed to increase this week, as had been expected, so Gulf export markets were quiet. A 0.5 cent advance in list prices for kerosene, two inquiries from French buyers for small mixed cargoes, and the selling of a mixed cargo by a leading refiner with its French subsidiary were the only events that stimulated interest.

Following the 0.5-cent increase in prices of cased kerosene at New York announced by the Standard Oil Co. of New Jersey Sept. 20, quotations for bulk and cased goods at the Gulf were advanced by most refiners. Water white kerosene is now held at 6.50 cents and prime white at 5.50 cents a gallon in bulk, prices for the two grades in cases are $1.60 and $1.50, respectively, a case.

Gasoline prices at the Gulf were the subject of much discussion particularly those for U. S. Motor. Several refiners held firmly to their list quotations of 7.50 cents for this grade whereas others were of the opinion that foreign buyers would be able to do 7 cents or possibly better, especially in view of the fact that goods for coastwise shipment has sold as low as 6.75 cents. Ideas regarding the 64-66, 375 end point grade were not so at variance, a majority of the trade believing that 8.25 cents was the ruling price although 8.50 cents is quoted by some. The 61-63, 390 end point grade was largely quoted at 7.75 cents. A broker today was offering a cargo of 390 end point gasoline firm at 6.875 cents, California, which figures in the neighborhood of 7.25 cents the Gulf.

An inquiry from a French buyer for approximately 26,000 barrels of water white kerosene and 40,000 barrels of 64-66, 375 end point gasoline was circulated among Gulf refiners early this week. An order failed to materialize in this country, and one or two of the trade were of the opinion that the business was placed with a Russian concern, although others doubted the probability of this inasmuch as dealers in Russian oils are unable to supply water white kerosene.

The French subsidiary of a leading refiner purchased around 70,000 barrels of U. S. Motor and 64-66, 375 end point gasoline, water white and prime white kerosene at prices reported to be 7.50 cents, 8.50 cents, 6.50 cents and 5.50 cents, respectively. Conflicting reports were heard, however about the gasoline prices. Several dealers asserted the U. S. Motor and 64-66, 375 sold at 7.25 cents and 8.25 cents.

An inquiry from a French buyer

EXPORTS FROM TAMPICO DISTRICT

Company	July	August
Transcontinental Petroleum Co., (Standard of New Jersey)	512,286	742,177
Pan American Eastern Oil Co.	2,837,365	1,764,479
Mexican Eagle Oil Co., (El Aguila)	841,610	683,280
Cia. Mexicana Holandesa "La Corona"	496,895	430,483
The Texas Co. of Mexico, S. A.	.....	93,290
Mexican Gulf Oil Co.	.....	.....
Sinclair Mexican Companies	312,270	718,982
East Coast Oil Co. of Mexico, S. A., (Southern Pacific)	.....	.....
Pierce Oil Corp.	.....	.....
Mexican Atlas Oil Co.	122,911	.....
Le Espuela Oil Co.	23,584	23,953
Moctezuma Terminal	.....	.....
Mexican Oil Products Co.	.....	.....
New England Fuel Oil Co.	.....	.....
Panuco Boston Oil Co.	.....	64,178
Totals	5,146,921	4,520,822

Complete Seaboard Market

(Export markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the years 1924-1925-1926)

Eastern Domestic Markets

(Prices in bulk except where otherwise noted f.o.b. refinery or seaboard plant)

	Sept. 26	Sept. 19
U. S. Motor gasoline, tank cars, New York Harbor	8.00 – 8.25	8.00 – 8.25
U. S. Motor gasoline, tank cars, Philadelphia	8.00 – 8.25	8.00 – 8.25
U. S. Motor gasoline, tank cars, Baltimore	8.00 – 8.50	8.25 – 8.50
U. S. Motor gasoline, tank cars, *Boston	8.50	8.50
U. S. Motor gasoline tank cars, Norfolk	8.00 – 8.50	8.00 – 8.50
U. S. Motor gasoline tank cars, Charleston	8.00	8.00
U. S. Motor gasoline tank cars, Jacksonville	7.75 – 8.00	7.75 – 8.00
U. S. Motor gasoline tank cars, *Providence	8.50	8.50
U. S. Motor gasoline tank cars, Savannah	7.75 – 8.00	7.75 – 8.00
California U. S. Motor gasoline, tank cars, Philadelphia	8.00 – 8.25	8.00 – 8.25
California U. S. Motor gasoline, tank cars, Baltimore	8.00 – 8.75	8.25 – 8.75
41-43 w.w. kerosene, New York	6.75	6.50
41-43 w.w. kerosene, Philadelphia	6.75	6.50 – 6.75
41-43 p. w. kerosene, *Boston	6.75	6.625
28-34 gas oil, New York	5.00 – 5.25	5.00
28-34 gas oil, *Boston	5.00	5.00
38-42 furnace oil, New York	6.00	6.00
36-40 Furnace Oil, *Boston	6.25	6.25
Grade C bunker oil, New York	$1.65	$1.65
Grade C bunker oil, *Boston	$1.65 –$1.70	$1.65 –$1.70
Diesel oil, New York	$2.10	$2.10
Russian 885-890 s.g., 325-330 vis. medicinal	$0.75 –$0.85	$0.75 –$0.85
Russian 870-875 s.g., 150-155 vis. medicinal	$0.67 –$0.77	$0.67 –$0.77
Russian 860-865 s.g., 80-85 vis. medicinal	$0.65 –$0.75	$0.65 –$0.75

*F.O.B. New England refineries and seaboard terminals.

New York Export Market

(Gasoline and kerosene in cases in bulk. Lubricating oils are all Penna. products, prices per gal. in bbls.)

	Sept. 26	Sept. 19
U. S. Motor gasoline	24.40	24.40
43-45, 150 w.w. kerosene	17.65	17.15
42-44, 110 s.w. kerosene	16.65	16.15
CYLINDER OILS		
Bright stock, dark	40.00 –41.00	40.00 –41.00
Filtered D 600	31.00 –32.00	31.00 –32.00
Filtered E 600 Warren	25.00 –26.00	25.00 –26.00
Unfiltered 600 s.r.	16.50 –17.50	17.00 –18.00
Unfiltered 650 s.r.	17.50 –18.50	19.00 –20.00
600 Flash s.r.	22.00 –23.00	23.00 –24.00
630 Flash s.r.	33.00	33.00 –34.00
RED ENGINE OILS (Vis. 100°)		
300 vis. No. 6½ color	20.00	20.00
250 vis. No. 6 color	19.00	19.00
200 vis. No. 6 color	18.50	18.50
PALE ENGINE OILS (Vis. 100°)		
230 vis. No. 3¾ color	24.00	24.00
180 vis. No. 3¼ color	20.00	20.00
100 vis. No. 2¼ color	15.75	15.75
MOTOR OILS (Vis. 100°)		
600 vis. No. 7 color	35.00	35.00
500 vis. No. 6½ color	33.00	33.00
400 vis. No. 7¼ color	31.00	31.00
300 vis. No. 6 color	30.00	30.00
200 vis. No. 3¼ color	24.00	24.00
MEDICINAL OILS		
875-885 s.g.	$0.80	$0.80
865-870 s.g.	$0.70	$0.70

WAXES (Pa. stocks; in cents per pound, f.a.s. carload lots)

WHITE CRUDE SCALE (In barrels)		
122-124 A.m.p.	3.00 – 3.125	3.125– 3.25
124-126 A.m.p.	3.00 – 3.125	3.125– 3.25
FULLY REFINED (In burlap bags)	**Sept. 26**	**Sept. 19**
123-125 A.m.p. Philadelphia	4.25	4.25
125-127 A.m.p.	4.25	4.25
128-130 A.m.p.	4.25 – 4.375	4.25 – 4.375
130-132 A.m.p.	4.50 – 4.625	4.50 – 4.625
133-135 A.m.p.	*5.75	*5.75
135-137 A.m.p.	*6.00 – 6.50	*6.00 – 6.50
YELLOW CRUDE SCALE		
124-126 A.m.p.	2.875– 3.00	3.00

* Prices Nominal

Gulf Export Market

(F.o.b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. and over, except where otherwise noted.)

GASOLINE	**Sept. 26**	**Sept. 19**
U. S. Motor	7.25	7.25
61-63, 390 e.p.	7.75	7.75
64-66, 375 e.p.	8.25	8.25
U. S. Motor, cases (cargo lots)	$1.65	$1.60 –$1.65
64-66, cases (cargo lots)	$1.80	$1.70 –$1.80
KEROSENE		
44 water white	6.50	6.00
41-43 prime white	5.50	5.00
Water white, cases (cargo lots)	$1.60	$1.55
Prime white, cases (cargo lots)	$1.50	$1.45
DOMESTIC GAS AND BUNKER OILS		
*26-28 gas oil	3.875– 4.00	3.875
*30-32 gas oil	4.00	4.00
Grade C bunker oil	$1.40 –$1.45	$1.40 –$1.45
Grade C bunker oil, cargoes	$1.25 –$1.30	$1.25 –$1.30

*Translucent thru neck of 4 oz. bottle.

MEXICAN CRUDE AND BUNKER OILS (F.o.b. steamer, Tampico)		
Heavy Panuco crude taxes to be paid	$1.15	$1.15
Grade C bunker oil, for bunkering purposes, taxes paid	$1.50	$1.50

SOUTH TEXAS LUBRICATING OILS (Viscosity at 100°F; cold test 0) (Tanker, f.o.b. Houston)		
100 vis. No. 2 unfiltered pale	6.00 – 6.25	6.00 – 6.25
200 vis. No. 3 unfiltered pale	8.50 – 9.00	8.50 – 9.00
300 vis. No. 3 unfiltered pale	9.50 –10.00	9.50 –10.00
500 vis. No. 3½ unfiltered pale	11.00 –12.00	11.00 –12.00
200 vis. No. 5½ red oil	7.00 – 8.00	7.00 – 8.00
300 vis. No. 5½ red oil	8.00 – 9.00	8.00 – 9.00
500 vis. No. 6 red oil	10.00 –10.50	10.00 –10.50

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	Sept. 26	Sept. 19
Gasoline, U. S. Motor, 53-55 Gravity	6.00 – 7.00	6.00 – 7.00
Gasoline, U. S. Motor, blends and special cuts	7.00 – 8.00	7.00 – 8.00
Gas Oil, 30-34, per bbl.	$0.90 –$1.00	$0.90 –$1.00
Diesel Oil, 27 plus, per bbl.	$0.80 –$1.00	$0.80 –$1.00
Bunker Oil, 14-18, per bbl.	$0.85 –$1.00	$0.85 –$1.00
Fuel Oil, 14-18, per bbl.	$0.80 –$0.90	$0.80 –$0.90
Kerosene, 38-40 w.w., 125-150 flash, in gals.	4.50 – 5.00	4.50 – 5.00
Cased Goods		
Gasoline, U. S. Motor	$1.70 –$1.80	$1.75 –$1.80
Kerosene, 38-40, w.w., 125-150 flash	$1.35 –$1.50	$1.40 –$1.50

for a small cargo of U. S. Motor gasoline and 64-66, 375 end point goods for November shipment from the Gulf was also in the market today. The trade was of the opinion the business would be placed on Monday or Tuesday.

Considerable interest was aroused over the sale of two cargoes of Seminole crude to a foreign concern, the deal being reported the first of kind in several months. The price at which the oil sold was not divulged, but well informed sources were of the opinion that the deal was closed at around $2 a barrel or slightly higher. To date, the best known quotation made has been $2.095 a barrel, figuring $1.33 at the well, 15 cents gathering charge, 56.5 cents freight to the Gulf and 5 cents terminal charge. Oil has been offered at this price at times in the past, and it was generally felt that some concession would have to be made to interest a foreign buyer.

Scale Wax More Active In New York Market

NEW YORK, Sept. 24.—A fair volume of wax trading was reported in the New York market this week, but prices at which goods moved were slightly lower than prices last week. White crude scale was more active than any of the fully refined grades and one or two large sales for both spot and deferred shipment were reported.

One dealer reported sales approximating 500 tons of white crude scale at 3 cents a pound. About one half of the total is for spot shipment and the remainder for October and November delivery.

The sale of 400 tons of 124-126 scale at 2.875 cents also was reported, and the fact that it was considered a distress transaction was denied by well informed dealers. However, it was felt that goods at this price would be comparatively hard to obtain, and a majority of sellers were quoting 3 to 3.125 cents as the week ended.

Little change was noted in lubricating oils. Prices were about marking time. Quotations on 600 steam refined, however, were approximately 0.5 cent lower in some quarters, also prices for 600 flash were lowered by a few sellers.

Sept. 20, Standard Oil Co. of New Jersey advanced prices of kerosene in cases 0.5 cent a gallon making 43-45, 150 water white, 17.65 cents and 42-44, 110 standard white, 16.65 cents.

Crude Oil Prices, as Posted by Major

(Crude prices for years 1924-1925-1926 in

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District)	$2.65
Bradford District Oil in National Transit Lines (Bradford District)	2.65
Penna. Grade Oil in National Transit Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania)	2.55
Penna. Grade Oil in Eureka Pipe Lines (West Virginia)	2.50
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district)	2.25
Keister Grade in National Transit Lines (Butler Co.)	1.10
Cabell Grade in Eureka Pipe Lines (West Virginia)	1.40
Corning Grade in Buckeye Pipe Lines (Ohio)	1.45
Corning, O. heavy grade	1.35
*Somerset Oil in Cumberland Pipe Lines (Kentucky)	1.50
Ragland Grade in Cumberland Pipe Lines (Kentucky)	.95

*Somerset oil run prior to Oct. 1922, takes price of 6 cents lower than above quotations.

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines.....$1.50

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective March 14, 1927

Wooster	$1.57	Plymouth	$1.33
Lima	1.71	West. Kentucky	1.33
Waterloo	1.35	*Canadian Petro.	2.11
Indiana	1.48	*Oil Springs	2.18
Princeton	1.60	*Posted by Imperial Oil Ltd.	
Illinois	1.60		

OKLAHOMA, KANSAS And NORTH TEXAS

Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective March 12, 1927

28-28.9	$1.12	35-35.9	$1.26
29-29.9	1.14	36-36.9	1.28
30-30.9	1.16	37-37.9	1.30
31-31.9	1.18	38-38.9	1.32
32-32.9	1.20	39-39.9	1.34
33-33.9	1.22	40-40.9	1.36
34-34.9	1.24	41-41.9	1.38
42-42.9	$1.40	48-48.9	$1.52
43-43.9	1.42	49-49.9	1.54
44-44.9	1.44	50-50.9	1.56
45-45.9	1.46	51-51.9	1.58
46-46.9	1.48	52 and above	1.60
47-47.9	1.50		

Above schedule met on March 12, by Gulf, Mid-Continent Pet. Corp., and Empire; by Carter, Humble and the Texas Co. on March 14.

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

March 14, same schedule as Prairie in above fields.

Mirando, Tex.....$1.00

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

Effective Sept. 14, Magnolia posted same price schedule as Prairie in above fields except that Magnolia is paying $1.05 for all oil below 30 gravity.

Corsicana heavy.....$1.00

Carter Oil Co.

(Oklahoma and Kansas)

March 14, same schedule as Prairie.

PANHANDLE, TEXAS

Humble Oil & Refining Co.

Effective Aug. 23

Hutchinson, Carson and Wheeler Counties..$0.75

Pampa, Gray County, Effective March 14:

28-28.9	$ .80	37-37.9	$ .98
29-29.9	.82	38-38.9	1.00
30-30.9	.84	39-39.9	1.02
31-31.9	.86	40-40.9	1.04
32-32.9	.88	41-41.9	1.06
33-33.9	.90	42-42.9	1.08
34-34.9	.92	43-43.9	1.10
35-35.9	.94	44 and above	1.12
36-36.9	.96		

WEST TEXAS

Humble Oil & Refining Co.

Effective Aug. 23

Crane, Upton, Crockett and Pecos Counties...$0.60

NORTH LOUISIANA — ARKANSAS FIELDS

Prices of Standard Oil Co. of Louisiana Caddo, Homer, Haynesville, Bull Bayou, El Dorado, Crichton and De Soto

Effective March 14, 1927

Below 28	$1.10	40-40.9	$1.36
28-28.9	1.12	41-41.9	1.38
29-29.9	1.14	42-42.9	1.40
30-30.9	1.16	43-43.9	1.42
31-31.9	1.18	44-44.9	1.44
32-32.9	1.20	45-45.9	1.46
33-33.9	1.22	46-46.9	1.48
34-34.9	1.24	47-47.9	1.50
35-35.9	1.26	48-48.9	1.52
36-36.9	1.28	49-49.9	1.54
37-37.9	1.30	50-50.9	1.56
38-38.9	1.32	51-51.9	1.58
39-39.9	1.34	52 and above	1.60

*Smackover, below 24	$0.90
* do 24 and above	1.15
Bellevue	1.25
Cotton Valley	1.00
**Urania, La	.90
†East El Dorado	1.00

**Posted by Louisiana Oil Refining Corp.

†Posted by Magnolia Petroleum Co.

*Smackover prices posted on Sept. 20 by S. O. La. Magnolia, Shreveport-El Dorado Pipe Line and Atlantic Oil Producing Co.; on Sept. 23 by The Texas Co.; on Sept. 17, La. Oil Refg. Corp.

STEPHENS, ARKANSAS

Atlantic Oil Producing Co. and Louisiana Oil Refining Corp.

Below 28	$1.00	30-30.9	$1.06
28-28.9	1.02	31-31.9	1.08
29-29.9	1.04	32 and above	1.10

GULF COASTAL

Posted by Humble Oil & Refining Co.

Effective March 14

Grades A	$1.20	29-29.9	$1.25
Grades B:		30-30.9	1.27
Below 25	1.15	31-31.9	1.29
25-25.9	1.17	32-32.9	1.31
26-26.9	1.19	33-33.9	1.33
27-27.9	1.21	34-34.9	1.35
28-28.9	1.23	35 and above	1.37

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling and Pierce Junction. All other fields are Grades A only.

California Refiners' Thoughts Turn To Prospects of 1928 Markets

LOS ANGELES, Sept. 24

THE big question in marketing circles in California at this time is, "What is the outlook for better conditions and better prices for California products in 1928?" The question has not been answered to the satisfaction of all concerned. There are many versions, most are pessimistic.

One version is that when present contracts, placed by important east coast companies for California products, expire, that the east coast interests will be able to name their price. In fact, according to this view, the buyer will have the upper hand.

Against this view, another is that several outstanding California companies have very close financial affiliations with powerful east coast concerns, and that their interests will not be hurt. In other words, east coast connections will do everything possible to help their connections in California to keep on an even keel, and see that they are not forced to sell their products at prices too low to allow a proper profit.

Not all contracts now in force will expire on the first of the year, but several will. As winter approaches, when fuel oil is in demand, prices are tightening up. For instance, during the past three weeks, quotations on fuel oil at Los Angeles harbor for export in bulk have advanced to 90 cents to $1, against an old price of 70 cents up. Bunker prices at the harbor are tight at 85 cents up, with more companies asking 90 cents to a dollar than those willing to sell at 85 cents.

Some of the Independent refineries, without deep water loading facilities, would be very glad to sell some fuel oil at 70 cents, or even at 65 cents. But they are barred from this market. It was reported this week that one large international oil company stood ready to pay 70 cents a barrel for all fuel oil offered in southern California. And the report has it that this offer stands open for the time being. Stocks of heavy crude oil, including all grades of fuels, have increased approximately 4,750,000 barrels during the past 12 months in California. During August, this character of stocks increased only 127,972 barrels.

Tanker charter rates are lower and favorable to California sellers in that they can sell their products at a higher price, and still compete with Mid-Continent refiners on the east coast. If California refiners cared to sell their fuel at 70 cents, a number of sales could be made, and the east coast market would be forced downward to meet this competition. But California refiners are trying not to

Purchasers, in All Fields (in Effect September 26, 1927)

OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

(Effective March 14)

Grades A	$1.20	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.37	38-38.9	$1.43
36-36.9	1.39	39-39.9	1.45
37-37.9	1.41	40 and above	1.47

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on oil below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co. and Midwest Refining Co.

(Salt Creek prices effective March 12)

‡Salt Creek 29-29.9	$1.14
" " 30-30.9	1.16
" " 31-31.9	1.18
" " 32-32.9	1.20
" " 33-33.9	1.22
" " 34-34.9	1.24
" " 35-35.9	1.26
" " 36-36.9	1.28
" " 37 and above	1.30
Elk Basin	1.33
Grass Creek light	1.33
Big Muddy	$1.25
Lance Creek	1.33
Rock Creek	1.25
Mule Creek	1.30
Rex Lake	1.10
‡Osage	1.33
‡Cat Creek, Mont.	1.33
Sunburst, Mont.	1.35
‡Hogback, N. Mex.	1.38
Artesia, N. Mex.	1.00

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

The Texas Co. buys Salt Creek and Big Muddy crude.

CALIFORNIA

Standard Oil Co. of California

Santa Maria and Ventura Posted by Union Oil Co.

Gravity	Signal Hill Seal Beach Huntington Beach	Inglewood Torrance	Whittier La Habra	Newhall, McKittrick, Kern River	Olinda-Brea Canon, Richfield	Athens-Rosecrans Dominguez	Montebello	Coyote Hills	Santa Fe Springs	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Santa Maria	Ventura
14-14.9	$ .85	$ .85	$ .85	$ .75	$ .85	....	$ .85	$ .85	....	$ .75	$ .75	$ .75	$ .75	$ .85	$ .05
15-15.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
16-16.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
17-17.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
18-18.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
19-19.9	.85	.85	.85	.75	.85	....	.85	.85	....	.75	.75	.75	.75	.85	.85
20-20.9	.85	.85	.85	....	.85	....	.85	.85	....	.77	.77	.76	.78	.85	.85
21-21.9	.86	.86	.85	....	.86	....	.85	.86	....	.79	.79	.77	.81	.85	.85
22-22.9	.87	.87	.85	....	.87	....	.85	.87	....	.81	.81	.78	.85	.85	.85
23-23.9	.88	.88	....	....	.88	....	.85	.88	....	.83	.83	.79	.89	.85	.85
24-24.9	.89	.89	....	....	.89	$ .89	.85	.89	.85	$ .85	.85	.80	.93	.85	.85
25-25.9	.90	.90	....	....	.90	.90	.86	.90	.85	.87	.87	.81	.97	.86	.86
26-26.9	.92	.92	....	....	.92	.92	.87	.91	.85	.89	.89	.83	1.01	.87	.87
27-27.9	.94	.94	....	....	.94	.94	.88	.92	.85	.91	.91	.85	1.05	.88	.88
28-28.9	.96	.96	....	....	.96	.96	.89	.93	.86	.93	.93	.87	....	.89	.89
29-29.9	.98	....	....	....	.98	.98	.90	.94	.87	.96	.96	.89	....	.91	.91
30-30.9	1.00	....	....	....	1.00	1.00	.91	.95	.88	.99	.99	.91	....	.93	.93
31-31.9	1.03	....	....	....	....	1.03	....	....	.89	1.02	1.02	.93	....	....	.95
32-32.9	1.06	....	....	....	....	1.06	....	....	.91	1.05	1.05	.95	....	....	.97
33-33.9	....	....	....	....	....	1.09	....	....	.93	1.08	1.08	.97	....	....	.99
34-34.9	....	....	....	....	....	1.12	....	....	.95	....	1.11	.99	....	....	1.01
35-35.9	....	....	....	....	....	1.15	....	....	.97	....	....	1.01	....	....	1.03
36-36.9	....	....	....	....	....	1.18	....	....	.99	....	....	....	....	....	1.06
37-37.9	....	....	....	....	....	1.21	....	....	1.01	....	....	....	....	....	1.09
38-38.9	....	....	....	....	....	1.24	....	....	1.03	....	....	....	....	....	1.12
39-39.9	....	....	....	....	....	1.27	....	....	1.06	....	....	....	....	....	1.15
40-40.9	....	....	....	....	....	1.30	....	....	1.09	....	....	....	....	....	....
41-41.9	....	....	....	....	....	1.33	....	....	1.12	....	....	....	....	....	....
42-42.9	....	....	....	....	....	1.36	....	....	1.15	....	....	....	....	....	....

*Union Oil Co. also purchases Long Beach Crude and is maintaining the same gravity and price schedule in that field as the Standard maintains in Signal Hill and Huntington Beach fields. The Union also buys and pays the same prices as the Standard in the Rosecrans-Dominguez fields, on gravities ranging from 14 degrees to and including 24.9 degrees and in Santa Fe Springs, on gravities ranging from 20 to and including 23.9 degrees.

do this very thing, judging from their tight quotations.

Low prices on the east coast are hurting the California refiner who has gasoline he wants to ship. Even at the present low tanker rate, it means that he must sell at around 6 cents a gallon at the harbor to compete in the New York area. It is rumored that some gasoline has been sold below this figure, but all realize that they cannot make money at such a price. For that reason there have been very few spot sales the past few weeks. But in spite of this, stocks of California gasoline have constantly declined for several months, with the indicated consumption on the west coast showing increases practically every month.

Refiners generally are selling at 1 cent under the tank wagon price for tank car shipments of gasoline to points within California, but much of this product is sold for movement to points outside of the state, and at varying prices. Reports this week were that a little gasoline was selling at 7 cents for such movement, but this is not the market, strictly speaking, as most of the shipments call for prices ranging from 7.25 cents up.

There have been practically no changes in quotations on other products during the past few weeks. Kerosene holds around 4.50 cents for export and 5 cents for tank car movement. Gas oil is slow with no change in prices. Lubricant prices are unchanged and have been in this condition for several weeks. Prices used probably are only a picture of the situation, as each deal sometimes means a lot of dickering, and varied prices.

California Stocks Decline

Stocks of all petroleum products in California declined 2,908,267 barrels during August according to figures compiled by the San Francisco Office of the American Petroleum Institute.

Stocks of heavy crude, including all grades of fuel oil were increased 127,972 barrels, while all other products showed declines. Gasoline stocks were reduced 459,580 barrels, to total of 12,386,669 barrels, while stocks of refinable crude decreased 1,708,713 barrels. Naphtha distillates in storage total 3,104,755 barrels, a decline of 308,859 barrels, while stocks of other products declined 559,087 barrels.

Daily average production of crude in California during August was 621,907 barrels, a decline of 1287 barrels when compared with July. During last month 11 drilling wells were abandoned as dry holes, while 21 old producers were abandoned. During month, an average of 11,202 wells were on production, and during same period 75 new wells with a total flush production of 42,286 barrels were completed. At the end of the month, 345 wells were drilling in the state, 130 of which were outside proven territory. Only 67 new rigs went up during the month, against 78 the previous month, and against a monthly average of 95 in 1926.

OIL STOCKS AND FINANCES

National Petroleum News

Dixie Gulf Gas Offers 7% Preferred Stock

CLEVELAND, Sept. 26.—Dixie Gulf Gas Co. is offering at par 37,500 shares of $100 7 per cent preferred stock. One share of common stock is offered as bonus with each share of preferred. The company is projecting a natural gas line from Waskom, Texas, where it will join a line of the Reserve Natural Gas Co. of Louisiana, in the vicinity of Port Arthur and Houston. The company has contracted to supply the refineries of the Pure Oil Co. and The Texas Co. with gas and also to sell the Houston Gulf Gas Co. part of the gas it distributes in Houston.

This preferred stock is part of an authorized issue of 200,000 shares which may be issued in series. It is redeemable at 110 at any dividend date on 30 days' notice. The company recently issued $9,500,000 of an authorized issue of $25,000,000 first mortgage bonds. Of the 1,000,000 authorized no par common stock 427,500 shares are outstanding. A reserve of 95,000 shares of common stock has been set up for delivery on exercise of stock purchase warrants.

The syndicate that has underwritten the preferred stock consists of Tucker, Anthony & Co., Goddard & Co., Inc., Moore, Leonard & Lynch, and Hale Waters & Co.

Mexican Petroleum Pays Special $75 Dividend

NEW YORK, Sept. 24.—Mexican Petroleum Co. has declared a cash distribution of $75 a share on the common stock payable Oct. 20 to stock of record Sept. 30. The regular dividends of $3 a share on the common and $2 a share on the preferred stock also have been declared.

Pan American Petroleum & Transport Co. the parent corporation, has reduced the dividend on its stock from $1.50 to $1 a quarter. The reduced dividends are payable Oct. 20 to stock of record Sept. 30.

Pan American owns 98.4 per cent of the 457,300 outstanding common shares of Mexican Petroleum. Payment of $75 a share on Pan American's holdings would involve $34,297,500 but it was announced that the amount accruing to it had already been taken up in inter-company accounts. The minority interest amounts to $585,000. Mexican Petroleum had $3,889,000 of cash on hand Dec. 31, 1926. Its surplus amounted to $76,796,665 or $168.93 on the common stock on that date.

The balance sheet of Dec. 31 showed "accounts with affiliated companies" that amounted to $29,405,488 which probably represented money owed Mexican Petroleum by the parent company. The special dividend wipes out this account.

Cities Service Earnings At Peak

NEW YORK, Sept. 24.—Cities Service Co.'s net earnings for the 12 months ended Aug. 31, 1927, amounted to $29,779,307, the largest 12 months' earnings in the history of the company, and an increase of 38 per cent over net earnings in the 12 months ended Aug. 31, 1926. Net earnings of Cities Service Co. in August were the largest in any August in the company's history. They were $2,556,080, an increase of 44 per cent over net earnings in August, 1926.

New York Bonds

Week Ending Sept. 23

	High	Low	Last	Ch'ge
Amer. Rep. deb. 6s	100	100	100	+ 1/4
Atlantic Refg. deb. 5s	102	101	101 1/2	— 1/8
Barnsdall Corp. 6s	98 1/2	97 3/4	98	0
Barnsdall Corp. 6s ex-war	90 7/8	90 5/8	90 7/8	+ 1/4
Cal. Petrol. 5s	99 1/4	94	99	+5
Cal. Petrol. 5 1/2s	99	98 5/8	99	0
Gen. Asphalt 6s	106 1/2	106	105 1/2	+ 1/2
Gen. Petroleum 5s	101 3/4	101 3/8	101 1/2	0
Humble Oil & Refg. 5 1/2s	102 3/8	102 1/4	102 5/8	+ 1/8
Humble Oil 5s wi	97 7/8	99 3/8	99 1/2	— 1/8
Mid-Cont. Pet. 6 1/2s	104 3/4	104 1/2	104 1/2	— 1/4
Pan Amer. P & T 7s	105 5/8	105 5/8	105 5/8	0
Pan Amer. P & T 6s	102 3/4	102 1/8	102 3/4	+ 5/8
Pan Amer. P & T 6s	94 1/2	94	94 1/2	+ 1/2
Pierce Oil deb. 8s	101 3/4	101 3/4	101 3/4	0
Prod. & Refin. 8s ex-war.	110	110	110	0
Simms Pet. cvt. 6s	100	98 3/8	99 1/2	0
Sinclair Con. Oil Col. 7s	100	99 3/4	99 7/8	— 3/8
Sinclair Con. Oil Co 1.6 1/2s	96 3/8	95 1/2	96 1/8	+ 1/4
Sinclair Con. Oil 6s	100	100	100	— 3/8
Sinclair Crude Oil 6s	100 3/4	100 3/8	100 3/8	0
Sinclair Pipeline sf 5s	93 3/4	93	93 3/4	+ 3/4
Skelly Oil 5 1/2s	95 1/4	94 7/8	95 1/4	+ 1/8
S. O. N. Y. 4 1/2s	96	95 5/8	96	0
S. O. of N. J. deb. 5s	103 1/2	103 1/4	103 1/4	— 1/8
Union Oil of Cal. 6s-A	109	108 1/2	109	+ 1/2
Union Oil of Cal. 5s-C	98 1/2	98 1/2	98 1/2	0

New York Curb Bonds

Week Ending Sept. 23

	High	Low	Last	Ch'ge
Beacon Oil 6s '36	101 1/4	100 1/2	101 1/4	+ 1/4
Cities Service 5s '66	89 7/8	89 3/8	89 5/8	— 1/4
Cities Service 6s '66	101 1/4	101	101 1/8	— 1/8
Cities Service gas 5 1/2s '42	93 5/8	93 1/8	93 3/8	— 1/8
Empire Oil 5 1/2s '42	92 3/8	92	92 3/8	+ 1/8
Galena S. O. 7s '30	92 1/4	92	92 3/8	+ 3/8
General Pet. 6s '28	101	100 3/4	101	0
Gulf Oil 5s '37	100 3/8	100	100 3/8	0
Independ. Oil 6s '39	98 1/2	98 1/2	98 1/2	0
Phillips Pet. 5 1/4s '39	96	95 1/8	96	+ 5/8
Pure Oil 6 1/2s '33	103 5/8	103 1/4	103 1/4	— 1/4
Pure Oil 5 1/2s '37	99 1/2	98 3/4	99 1/2	+ 5/8
Richfield Oil 6s '41	93	93	93	0
Sinclair Oil 6s	99 1/4	99	99	0
S. O. of N. Y. 6 1/2s '33	104 3/4	104	104 1/2	+ 1/4
Sun Oil 5 1/2s '39	101 1/2	101	101	— 1/4
Trans. Cont. Oil 7s '30	114	111 1/4	112 7/8	— 3/8
Warner-Quinlan 6s '42	95 1/8	95	95	0
White Eagle 5 1/2s '57	96	96	96	— 1/2

Barnsdall is Paying Dividend in Stock

NEW YORK, Sept. 24.—The Barnsdall Corp. dividend declared payable Nov. 1 to stock of record Sept. 26 will be paid in stock instead of in cash as heretofore. The rate is the same as heretofore, 2½ per cent on the $50 A and B stock. The dividend was increased to 62½ cents a share or 2½ per cent, from 50 cents a share last March.

Barnsdall Corp. and subsidiaries report for eight months ended Aug. 31, 1927, net income of $2,918,493 after interest, federal taxes, depreciation, depletion, etc., equivalent to $2.53 a share (par $25) earned on 1,153,656 shares of combined Class A and Class B stocks. This compares with net income of $4,235,366 or $3.72 a share on 1,137,661 combined shares in corresponding period of 1926.

August net income was $702,924 after above charges, comparing with $548,259 in August, 1926.

Consolidated income account of Barnsdall Corp. and subsidiaries for eight months ended Aug. 31, 1927, compares:

	1927	1926
Net after interest and federal taxes	$6,249,099	$6,530,571
Depreciation	1,109,108	947,283
Depletion	2,221,498	1,347,922
Net income	$2,918,493	$4,235,366

Directors of the Barnsdall Corp. increased the board of directors from nine to twelve and added the following new directors: E. W. Stetson, vice-president, Guaranty Trust Co.; John T. Furlong, formerly an officer of Barnsdall, and James A. Dunn, vice-president and secretary, Barnsdall Corp.

Opens Station and Cottages

HIGHLAND, Ill.—Oct. 1 has been set as the opening day of the fifth service station of the Merchants Oil Co. here.

The station includes a cottage camp for tourists and is located on the national trail at the west end of Highland. Seven cottages have been built which are equipped with electric lights, heating, hot and cold water, shower baths, fully equipped laundry and garage. Five additional cottages will be built next spring.

The station has three pumps, grease racks and wash room for cars. There is also space for tourists who have their own camping outfit, according to J. G. Bardill, president.

Transactions in Oil Shares on New York Stock Exchange

1926 High	1926 Low	1927 High	1927 Low		Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended Sept. 23 Sales	First	High	Low	Last	Change
32⅞	24¼	37⅝	27⅝	(sh)	916,675	N.P.	Amerada Corp.	50cQ	July 30, 27	8,800	29⅝	31⅛	29½	30⅞	+ 1⅜
74	39⅞	64⅞	35⅛	(sh)	209,180	N.P.	American Republics	.....	.....	1,600	46⅞	48	45½	46	— 1
59½	44¾	50¼	40	$	56,000,000	$25	Associated Oil	50cQ	Sept. 24, 27	100	40	40	†40	40	— 4
128⅜	97	131⅜	107		50,000,000	100	Atlantic Refining	$1Q	Sept. 15, 27	12,100	118	122½	118	119½	+ 1½
120	115½	118	115½		20,000,000	100	do pfd	$1.75Q	Aug. 1, 27	100	118	118	118	118	+ 1
33½	23½	35½	20⅞		25,000,000	25	Barnsdall Corp. A	62½cQ	July 15, 27	13,300	23⅛	23¼	22⅝	23	0
29½	22½	32½	21¼		3,842,400	25	do B	62½cQ	July 15, 27	600	22¾	23	22⅝	23	+ ½
68⅛	29¾	32⅞	21⅜		51,523,950	25	California Petroleum	25cQ	Sept. 1, 27	4,200	22	22⅝	21½	21¾	— ¼
94¼	50	96¾	65		24,355,000	100	General Asphalt	.....	.....	22,900	73½	75⅞	72¼	74	+ 1⅜
140½	94⅞	144⅞	107¼		6,874,200	100	do pfd	$1.25Q	Sept. 1, 27	300	115	116	115	116½	+ ½
72	50¼	174½	60⅛		25,000,000	100	Houston Oil	.....	.....	123,700	142	153	138½	152⅛	+ 7⅛
84	19⅝	32¾	17⅝	(sh)	500,000	N.P.	Independent Oil & Gas	25cQ	July 18, 27	5,400	21	21¾	20½	20½	— ½
13¾	7¼	11¾	7½	$	3,280,340	$10	Indian Refining	.....	Dec. 15, 20	4,600	10⅜	11⅝	10¼	11	+ ½
12½	8	11¾	7¼		4,550,110	10	do ctfs	.....	.....	1,200	11	11½	10½	10½	0
104	90	112	99⅞		2,296,400	100	do pfd	.....	Dec. 15, 21	.....	.....	.....	.....	.....	.....
24½	19⅛	34¾	20½	(sh)	3,992,067	N.P.	Lago Oil & Transport	75cQ	Aug. 1, 27	36,900	31½	*34¾	31	34	+ 2½
19⅞	12	18⅛	10½	(sh)	1,131,290	N.P.	Louisiana Oil Refining	.....	.....	6,200	11	11⅝	10⅞	11	+ ⅛
98	93	97	90	$	4,000,000	$100	do pfd	$1⅜Q	Aug. 15, 27	.....	.....	.....	.....	.....	.....
28⅞	16½	22¾	13	(sh)	330,000	N.P.	Maracaibo Oil	.....	.....	600	15	15	14	14	— ½
63⅜	49¾	58½	31	(sh)	2,316,401	N.P.	Marland Oil Co.	.....	Mar. 31, 27	24,200	35¼	36½	35	35⅝	+ ⅝
250	225	250	200	$	45,942,800	$100	Mexican Petroleum	$3Q	July 20, 27	30	250	250	250	250	+ 3
.....	.....	.....	.....		12,000,000	100	do pfd	$2Q	July 20, 27	.....	.....	.....	.....	.....	.....
13¾	6	9¼	3	(sh)	945,839	N.P.	Mexican Seaboard	.....	Nov. 15, 24	4,100	3¾	5	3¾	4⅝	— ⅞
37	27½	39⅜	28⅜	(sh)	1,357,800	N.P.	Mid-Continent Petroleum	.....	Aug. 1, 27	104,800	33	35¼	†28⅜	28⅞	— 4¼
104¼	90	105	97	$	6,718,000	$100	do pfd	$1.75Q	Sept. 1, 27	100	104	104	104	104	0
2½	¾	3¾	1⅝		24,435,000	10	Middle States	.....	July 1, 23	6,100	2½	2½	2¼	2⅜	0
1⅜	½	2¾	1⅜		5,356,660	...	do ctfs	.....	.....	300	2	2	2	2	+ ¼
2¼	1	1⅞	1	(sh)	3,500,000	N.P.	Pacific Oil	.....	.....	1,200	1¼	1¼	1¼	1¼	— ⅛
76½	56½	65⅞	45½	$	48,807,500	$ 50	Pan American P. & T.	$1.50Q	July 20, 27	9,500	48¾	52¾	48¾	51⅞	+ 1¼
78⅜	56⅞	66⅜	45⅝		121,094,850	50	do B	$1.50Q	July 20, 27	66,800	50⅞	53⅜	49½	51¾	+ 1
46	30	37⅞	19	(sh)	400,000	N.P.	Pan American Western B.	.....	Jan. 30, 27	2,600	19⅞	20¼	19¾	19¾	— ¼
62	4½	18⅞	8	(sh)	198,770	N.P.	Panhandle P. & R.	.....	.....	18,700	11¾	13½	11	12¼	+ ½
99⅜	51	83¾	58¾	$	2,935,200	$100	do pfd	.....	July 2, 23	2,100	60¾	72	60¾	70	+10¾
57⅜	40	60¼	38	(sh)	2,406,796	N.P.	Phillips Petroleum	75cQ	Oct. 1, 27	62,600	41⅞	43⅞	41⅜	42½	+ ⅝
1⅞	½	1⅛	½	$	29,622,925	$ 25	Pierce Oil Corp.	.....	.....	1,700	⅝	⅝	⅝	⅝	— ⅛
27⅛	11⅛	24	13½		15,000,000	100	do pfd	.....	Feb. 1, 22	100	16¾	16¾	16¾	16¾	— ⅛
7	2¼	5½	2½	(sh)	2,500,000	N.P.	Pierce Petroleum	.....	.....	2,200	3⅝	4	3⅝	4	+ ⅜
20¾	11	33⅞	16¾	$	37,450,850	$50	Producers & Refiners	.....	Sept. 15, 23	21,900	24⅛	28⅞	24⅛	28¾	+ 4½
41¾	30¾	50	36⅞		2,845,350	50	do pfd	.....	May 1, 25	920	43	45	43	45	+ 2
31	25¼	33½	25⅝		75,939,250	25	Pure Oil Co.	‡37½cQ	Sept. 1, 27	17,600	26½	26¾	26⅛	26¾	+ ¼
112¾	106	114	111⅜		13,000,000	100	do 8% pfd	$2Q	Oct. 1, 27	200	113½	113½	113½	113½	+ 2
57⅜	47⅜	58	45¼	(sh)	616,605	13.40	Royal Dutch, N. Y. shares	$1.80	Aug. 2, 27	800	46	46¼	46	46	— ¼
40⅜	40½	47⅞	42⅛	(sh)	78,389	F2	Shell Transport & T.	$1.45	July 22, 27	100	42⅝	42⅝	42⅝	42⅝	— ⅝
31	24	31¾	25	(sh)	10,000,000	N.P.	Shell Union Oil	35cQ	Sept. 30, 27	7,900	25⅜	26½	25⅜	26⅜	+ ⅞
114	103	111	107½	$	18,350,400	$100	do pfd	$1½Q	Aug. 15, 27	.....	.....	.....	.....	.....	.....
28⅜	15½	22¾	14¼		7,208,080	10	Simms Petroleum	.....	Apr. 1, 27	5,000	16¾	17¼	16	17	+ ⅛
24⅞	16¾	22⅜	16	(sh)	4,501,339	N.P.	Sinclair Consolidated	.....	May 31, 24	22,100	17⅛	17⅞	17	17⅛	+ ⅛
99½	90	103¼	97	$	16,907,000	$100	do pfd	$2Q	Aug. 15, 27	400	100	100¼	99½	99½	— ½
37⅛	26⅝	37⅜	24⅛		27,356,590	25	Skelly Oil Co.	50cQ	Sept. 15, 27	4,400	26⅛	26⅞	26⅛	26⅞	+ ⅝
63⅜	52⅜	60¾	50⅜	(sh)	13,016,434	N.P.	S. O. California	62½cQ	Sept. 15, 27	14,200	53⅜	54⅛	53¼	54⅛	+ ⅝
46⅜	37⅜	43¾	35⅛	$	606,243,050	$25	S. O. New Jersey	‡25cQ	Sept. 15, 27	41,300	39½	40⅛	39	40	+ ¾
33¼	32½	34⅛	29¾		424,348,275	25	S. O. New York	40cQ	Sept. 15, 27	20,100	31½	31⅝	31¼	31⅞	+ ¼
41⅝	30⅛	34⅞	30	(sh)	1,171,508	N.P.	Sun Oil	25cQ	Sept. 15, 27	1,100	....	31½	31	31⅜	— ⅝
....	....	100	99	$	5,000,000	$100	do pfd	$1.50Q	Sept. 1, 27	400	....	100	99¾	100	0
5¼	1	6½	3¾	(sh)	1,121,368	N.P.	Superior Oil Corp	.....	Dec. 20, 20	5,300	3¾	4⅜	3¾	3⅞	+ ⅛
57⅞	53⅛	58	45	$	180,42[illegible],225	25	The Texas Corp.	75cQ	Oct. 1, 27	49,300	50¼	51⅝	50	51⅜	+ 1¼
19½	12	18⅞	12		8,380,340	10	Texas Pacific Coal & Oil	15c	Sept. 30, 27	16,300	14⅜	14⅝	14¼	14¼	+ ⅜
39¼	37	29⅛	22	(sh)	2,168,264	N.P.	Tide Water Oil Co.	20cQ	Sept. 30, 27	300	24	24	24	24	+ 1
103	87¼	89¾	86	$	20,705,200	$100	do 5% pfd.	$1.25Q	Aug. 15, 27	100	88½	88½	88½	88½	0
....	....	19⅛	15½	(sh)	4,795,934	N.P.	Tide Water Associated	15cQ	Aug. 1, 27	18,800	16¾	17¼	16¼	17	+ ½
....	....	90¾	86	$	72,795,900	$100	do pfd.	$1.50Q	July 1, 27	600	86	86⅝	†86	86	— ½
5½	3	9¾	3¾	(sh)	3,742,029	N.P.	Transcontinental Oil	.....	.....	53,200	7⅝	7⅞	7½	7½	— ⅛
58⅜	37¼	56½	39⅜	$	40,759,475	$ 25	Union Oil of California	50cQ	Aug. 10, 27	11,800	42⅜	43	42⅛	42¼	0
120⅜	84¼	116½	94		30,734,000	100	Union Tank Car Co.	$1.25Q	Sept. 1, 27	100	111	111	111	111	— ¼
.....	.....	.....	.....		240,000	N.P.	Warner Quinlan	50cQ	Oct. 1, 27	200	....	25⅞	25¾	25⅞	+ ⅛
29¾	25⅛	27½	22	(sh)	490,000	N.P.	White Eagle Oil & Refining	50cQ	July 20, 27	1,000	....	22⅝	22½	22½	+ ⅛

*New High †New Low xEx-Dividend ‡Also extras Total Sales 865,150

Oil Dividends

	Amount	Payable	Stock of Record
Barnsdall A & B	*2½%	Nov. 1	Sept. 26
Indiana P. L. q.	$1	Nov. 15	Oct. 21
do extra	$1	Nov. 15	Oct. 21
Lion Oil Refg. q.	50c	Oct. 27	Sept. 30
Mexican Pet. q.	$3	Oct. 20	Sept. 30
do special	$75	Oct. 20	Sept. 30
do pfd.	$2	Oct. 20	Sept. 30
New Bradford q.	12½c	Oct. 15	Sept. 30
Pan American P. & T. q.	$1	Oct. 20	Sept. 30
do B q.	$1	Oct. 20	Sept. 30
Richfield Oil q.	25c	Nov. 1	Oct. 5
do pfd.	1¾%	Nov. 1	Oct. 5
Waverly Oil q.	37½c	Oct. 1	Sept. 27
Cities Service m.	½%	Nov. 1	Oct. 15
do stock m.	½%	Nov. 1	Oct. 15
do pfd. m.	½%	Nov. 1	Oct. 15
do pfd. B m.	½%	Nov. 1	Oct. 15

Cleveland Stock Market

September 23

	Par Value	Bid	Asked	Last Sale
Canfield Oil Co.	100	...	...	100
do pfd.	100	x97	...	100
Fred G. Clark	10	...	3	3¼
National Refining Co.	25	35⅛	35½	35
do pfd.	100	128	...	130
Paragon Refining Co.	25	8⅛	8½	8½
do pfd.	100	84	...	81

x Ex-Dividend.

PITTSBURGH STOCK EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Sept. 23 First	High	Low	Last	Ch'ge
8½	5¾	9⅞	6⅞	$ 10	Arkansas Nat. Gas.	982	8¾	8¾	8¼	8¼	— ⅜
90½	79¾	98⅝	84	100	Columbia Gas	.....	.....	.....	.....	.....	.....
101⅜	95	107	100	100	do pfd.	.....	.....	.....	.....	.....	.....
17	12½	15	9½	10	Devonian Oil	.....	.....	.....	.....	.....	.....
116½	112	116¾	115	100	Duquesne Lt. 7% pfd.	145	116½	116½	116½	116½	+ ¾
10	5⅛	12¼	6	N.P.	Houston Gulf Gas.	110	9¼	9½	9⅜	9½	+ ¼
46	39	49½	37¼	$ 25	Lone Star Gas	5,375	48½	48½	x47⅜	48	— ⅜
47⅜	33⅛	22⅜	22¼	25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
47½	42	21⅝	21	...	do ctfs.	.....	.....	.....	.....	.....	.....
6¾	5	6	5	...	Ohio Oil & Gas	.....	.....	.....	.....	.....	.....
34	21	21	21	25	Oklahoma Nat. Gas	.....	.....	.....	.....	.....	.....
21	19¼	23⅝	20¼	....	do ctfs.	260	21½	21½	21½	21½	0
5⅜	3⅛	3⅞	3	5	Pittsburgh Oil & Gas	.....	.....	.....	.....	.....	.....
10	7½	8	6	10	Salt Creek Cons.	.....	.....	.....	.....	.....	.....
27	8	26½	17	10	Tidal Osage	.....	.....	.....	.....	.....	.....
45	40	43	33	N.P.	Waverly Oil Wks. "A"	335	40	40	†33	33	— 7

PITTSBURGH CURB EXCHANGE

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Sept. 23 First	High	Low	Last	Ch'ge
3⅜	2½	3½	2¾	$ 5	Columbia Synd.	.....	.....	.....	.....	.....	.....
20	.06	.18	.18	5	Duquesne Oil	.....	.....	.....	.....	.....	.....
91½	85	94	88	25	Gulf Oil Corp.	.....	.....	.....	.....	.....	.....
79	79	105	93	100	Houston Gulf Gas pfd	.....	.....	.....	.....	.....	.....
12	7½	10¾	6¼	N.P.	Leonard Oil & Dev.	200	9¼	9¼	9¾	9¼	+ ¼
30¼	29	32	31¼	$ 25	Oklahoma Gas	.....	.....	.....	.....	.....	.....
2	.15	2.70	.75	10	Omar Oil & Gas	3,200	.85	.85	.75	.75	— .15
....	....	2¼	1¾	....	Pittsburgh Oil Dev.	.....	.....	.....	.....	.....	.....
2	1¾	2¼	2¼	5	do pfd.	.....	.....	.....	.....	.....	.....
33½	20	31	20	10	Plymouth Oil	468	21	21	†20	20	— 1¾
7	3	6	5	5	States Oil	.....	.....	.....	.....	.....	.....
3½	2	3⅛	1¾	1	Texon Oil & Land	.....	.....	.....	.....	.....	.....
25¾	8	23¾	18	10	Tidal Osage (non-vtg).	.....	.....	.....	.....	.....	.....

*New high †New Low xEx-Dividend

Standard Oil Stock Traded in New York

1926 High	1926 Low	1927 High	1927 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Sales	Week Ended Sept. 24 First	High	Low	Last	Change
21	16⅜	21⅝	17⅝	£ 4,000,000	£1	Anglo-American Oil	60 11d	May 31, 27	1,700	18¼	18½	18¼	18⅜	+ ⅛
20¼	16½	20½	17⅝	.....	£1	do ctfs. non-voting	.....	.....	700	18	18¼	18	18¼	+ ¼
2¼	.75	1⅜	.75	(sh) 500,000	N.P.	Atlantic Lobos	.....	.....	100	1⅜	1⅜	1⅜	1⅜	0
5	2¾	4½	2½	$ 10,000,000	$ 10	do pfd.	.....	.....	200	4¼	*4½	4¼	4½	+ ½
75	65	69	50	1,000,000	25	Borne Scrymser	‡$1S.A.	Apr. 15, 27	200	60	60	60	60	— 1
59½	42	59	45	10,000,000	50	Buckeye Pipe Line	$1Q	Sept. 15, 27	400	56½	57⅛	56½	57	0
82½	65	115	76½	3,000,000	25	Chesebrough Mfg.	$1Q	Sept. 30, 27	300	108	108	107	107	— 2
25⅞	17½	22⅝	16½	38,805,260	10	Continental Oil	25cQ	Sept. 15, 27	6,200	18⅜	18⅜	18	18⅛	— ⅜
137	102	137	89	3,000,000	100	Cumberland Pipe Line	$2Q	Sept. 15, 27	.....	.....	.....	.....	.....	.....
63¾	43	58½	47	5,000,000	100	Eureka Pipe Line	$1Q	Aug. 1, 27	300	55¼	57	55	57	+ 2
32½	9⅛	13½	7⅛	16,000,000	100	Galena Signal Oil	.....	June 30, 25	200	8	8	8	8	0
94½	35	59¾	33	4,000,000	100	do new pfd.	.....	June 30, 26	20	33	33	†33	33	— 3
97½	40	60⅛	36	2,000,000	100	do old pfd.	.....	June 30, 26	90	45½	46	45½	46	+ ½
99⅝	52	65¼	54	73,117,577	25	Humble Oil & Refining	‡30cQ	Oct. 1, 27	33,000	62⅛	*65¼	61⅞	63¾	+ 1⅝
144⅛	125¼	164¾	123¾	20,000,000	100	Illinois Pipe Line	$6S.A.	June 15, 27	450	162	162½	162	162	— 1¼
39¾	32½	59½	37¾	(sh) 6,491,952	N.P.	Imperial of Canada	‡25cQ	Sept. 1, 27	24,600	53¼	*59½	52¾	59½	+ 5¾
70	54¾	79	61	$ 5,000,000	$50	Indiana Pipe Line	$1Q	Aug. 15, 27	2,300	69½	*79	69½	79	+ 9½
35¼	28¾	34⅞	28	(sh) 7,118,138	N.P.	International Petroleum	25c	June 15, 27	25,800	31⅛	32⅝	30⅞	37½	+ 1½
20¾	12½	17	13½	$ 6,362,500	$12½	National Transit Co.	25cQ	Sept. 15, 27	1,600	15⅝	16⅛	15⅝	16	+ ⅝
51½	27⅛	37	31¼	5,000,000	100	New York Transit	.....	July 15, 26	200	34	34	33¼	33¼	— ½
80½	64	91	70	4,000,000	100	Northern Pipe Line	$3S.A.	July 1, 27	250	83	85	82	82	— 2½
67⅜	55¾	64¼	52	60,000,000	25	Ohio Oil Co.	‡50cQ	Sept. 15, 27	900	60¾	61	60¼	60¼	— 1⅛
24⅜	15	31	12	10,000,000	25	Penn Mex. Fuel	.....	May 21, 25	800	23	24½	23	24½	+ 1½
60¼	48	55½	45⅜	60,000,000	25	Prairie Oil & Gas	50cQ	Aug. 31, 27	5,600	51	52	50⅝	51⅜	+ ½
137½	122¼	186	132	81,000,000	100	Prairie Pipe Line	$2.50Q	July 31, 27	1,050	184	184	183	184	0
220	184½	201½	180	4,000,000	100	Solar Refining	$5S.A.	June 20, 27	100	182	182	181	181	— 1
27	21	27¼	15½	5,000,000	50	Southern Pipe Line	.....	Mar. 1, 26	800	....	21	18¾	21	+ 2½
50	34½	41½	34½	20,000,000	25	South Penn Oil	50cQ	Sept. 30, 27	100	37⅛	37⅛	37⅛	37⅛	— ⅜
57	49	77	55½	3,500,000	100	South West Pa. Pipe Lines	$1Q	Oct. 1, 27	200	68½	72	68½	72	+ 3
70½	60½	75⅞	64¾	228,415,463	25	S. O. Indiana	‡62½cQ	Sept. 15, 27	30,400	73⅞	74	73⅛	73½	— ⅛
36½	16½	20⅞	15⅝	8,000,000	25	S. O. Kansas	.....	June 16, 24	600	16⅝	18	16⅝	17¼	— 1½
134⅜	108	123¾	111½	17,012,599	25	S. O. Kentucky	$1Q	Sept. 30, 27	400	122⅞	123¼	122½	122½	— 1
51⅜	42	49½	42	4,559,850	25	S. O. Nebraska	63cQ	Sept. 20, 27	200	44¾	45	44¾	45	+ ¼
672	288	863¾	73	14,000,000	25	S. O. Ohio	62½cQ	Oct. 1, 27	250	79	79½	78	78	— 1½
120½	116½	122	117¼	7,000,000	100	do pfd.	$1.75Q	Sept. 1, 27	20	120	120	120	120	— 1½
23	15½	18	14½	861,466	25	Swan Finch Co.	.....	Nov. 1, 19	100	17½	17½	17½	17½	+ ¾
109¾	90¼	134⅝	95⅛	62,470,800	25	Vacuum Oil	‡50cQ	Sept. 20, 27	5,500	127⅛	129⅜	126¼	128¼	+ ⅝

*New high †New low xEx dividend ‡Also extras.

Mid-Continent Petroleum Corp.—Dividend on common stock due Nov. 1 has been passed. Payment has been 75 cents a share a quarter.

STANDARD OIL ISSUES

PIPE LINE COMPANIES

We shall be pleased to furnish information regarding these companies.

CARL H. PFORZHEIMER & CO.

Specialists in Standard Oil and Miscellaneous Oil Securities

25 Broad Street New York

New York Curb Market

1926 High	1926 Low	1927 High	1927 Low	Par Value	Stocks	Transactions Sales	Week Ended Sept. 24 First	High	Low	Last	Change
6¾	45	2⅞	.55	$5	Amer. Con. Oilfields	137,000	1⅛	1¼	.75	1	— .18
14½	4	7½	3	N.P.	Amer. Maracaibo	1,000	3¾	3¾	3⅝	—	— ⅛
8⅜	5¾	9¾	6¾	$10	Arkansas Nat. Gas	200	8⅞	8⅞	7½	7½	— 1½
20⅜	14⅛	20½	15½	N.P.	Beacon Oil	.....	.....	.....	.....	.....	.....
85¼	60	32¾	20½	N.P.	British American	200	29⅞	*32¾	29¾	32¾	+ 2⅞
28⅜	9¼	28¼	14⅜	25c	Carib Syndicate(new)	1,800	21½	22	19¾	20¾	— 1⅛
.....	.....	26	16½	...	do ctfs. of deposit	.....	.....	.....	.....	.....	.....
51	37½	58¾	40¼	$20	Cities Service	11,500	49¼	49¼	48¾	49	— ⅛
92½	82⅜	92¼	87	100	do pfd.	2,100	90¼	91	90¼	91	+ ¾
8⅜	7⅜	8½	7⅜	10	do pfd. B	100	8¼	8¼	8¼	8¼	0
25¼	19	29¼	22½	10	do banker's shares	.....	.....	.....	.....	.....	.....
3½	1¾	3⅞	1⅞	$1	Colombia Syndicate	3,500	2⅛	2⅛	2 1/16	2 1/16	— 1/16
10⅛	8⅛	9½	7	10	Consolidated Royal	.....	.....	.....	.....	.....	.....
16	10	14⅞	9⅞	N.P.	Creole Syndicate	7,200	11	11	10⅝	10⅞	— ¼
7⅜	1⅛	3	1	N.P.	Crown Central	100	1	1	1	1	— ⅛
8½	½	12	4¾	...	Darby Petroleum	4,100	6½	6½	6⅜	6⅜	— ⅛
.....	.....	11½	5⅜	...	do trust ctfs.	200	....	6	†5⅜	5⅜	— ⅝
4	1¾	2½	1¼	N.P.	Derby Oil & Refining	.....	.....	.....	.....	.....	.....
19	13	16¾	10	N.P.	do pfd.	.....	.....	.....	.....	.....	.....
7½	2½	3¾	1	N.P.	Gibson Oil	5,600	1⅜	1½	1⅜	1½	+ ⅛
2	.63	1⅜	40	N.P.	Gilliland ctfs.	.....	.....	.....	.....	.....	.....
98	82	96½	86¼	$25	Gulf Oil Corp.	3,100	92¼	93⅜	92	92¼	+ ¼
3⅜	1	2¼	1¼	N.P.	Kirby Petroleum	.....	.....	.....	.....	.....	.....
12¼	5¾	10⅞	6	N.P.	Leonard Oil & Dev.	7,200	9¼	9½	9	9⅛	0
27	20	27½	21½	N.P.	Lion Oil & Refg.	100	22½	22½	22½	22½	0
46	31	49½	37	$25	Lone Star Gas	1,500	47⅝	48⅞	47⅝	48	+ ¼
2¾	2	2⅞	.87	1	Magdalena Synd.	5,900	90	1¼	†.87	1	0
5½	1⅞	3	1½	10	Mexican-Panuco	.....	.....	.....	.....	.....	.....
1¾	1¼	1½	1	1	Mountain & Gulf	1,800	1⅛	1⅛	1	1	— 1/16
26	23	26⅞	22¾	10	Mountain Producers	2,300	23¾	23¾	23¾	23⅜	— ⅜
6¾	5	5⅞	4¾	5	New Bradford	700	4¾	4⅞	4¾	4¾	0
11¾	2	6¼	4	10	New England Fuel	.....	.....	.....	.....	.....	.....
17	9⅛	16	9¼	1	New Mex. & Ariz.	4,300	11½	11½	10¼	10¼	— 1⅜
17	8	13¼	9	25	New York Oil	1,100	11⅜	11½	11¼	11½	+ ½
12⅛	8¾	12⅝	10¼	N.P.	North Cent. Texas	100	10¼	10¼	†10¼	10¼	— ¼
44¾	33	.....	.....	$25	Ohio Fuel Corp.	.....	.....	.....	.....	.....	.....
33	28½	27½	21¾	...	Okla. Nat. Gas ctfs.	500	21½	21½	21½	21½	— 1
10⅛	5⅝	9⅜	1¾	N.P.	Pandem	6,900	2⅞	3¼	2⅞	3¼	+ ⅜
12¼	11¾	12⅛	8½	N.P.	Pantapec Oil	13,900	9⅞	10	†8½	9¾	— ¼
2¾	.20	.37	.25	N.P.	Peer Oil Corp.	.....	.....	.....	.....	.....	.....
22¾	12	13½	6¼	$10	Pennok Oil	500	6½	6½	†6¼	2⅜	— ¾
38	14⅛	24⅜	14⅛	25	Red Bank Oil	500	14⅛	14⅛	†14⅛	14⅛	— 7⅛
30¼	12	15½	2	N.P.	Reiter-Foster	26,200	5⅞	7	5¾	6¾	+ ¾
27½	22	27½	15	$25	Richfield Oil	400	19	19	19	19	0
7½	4½	7	4½	N.P.	Ryan Consolidated	600	6½	6½	6	6	— ½
10	7½	8	6	$10	Salt Creek Cons.	.....	.....	.....	.....	.....	.....
36	26⅞	32	27¼	10	Salt Creek Prod.	700	28¼	28⅜	28¼	28⅜	+ ⅛
4⅜	1⅜	7	2⅛	5	Savoy Oil	200	2⅛	2⅛	2⅛	2⅛	— 1/16
27	7⅝	26½	17	10	Tidal Osage	1,200	21½	21¾	21⅛	21⅛	— ⅜
25⅜	7⅜	23¾	15	10	do non-voting	3,600	19⅝	21⅜	19⅝	20⅞	+ ½
.....	.....	88	63½	100	Transcontinental pfd.	400	80½	80½	80	80	— 1
3	4⅛	7⅜	4¼	5	Venezuelan Petrol.	4,100	5⅞	5⅞	5⅜	5¾	— ⅛
31½	22	32⅜	20⅜	N.P.	Wilcox Oil & Gas	2,800	22⅜	22⅜	21	21¾	— ½
9½	4⅜	8	5⅛	$1	Woodley Petroleum	300	5½	5½	5⅛	5¼	— ¼

*New High †New Low xEx Dividend

Builds 95-Mile Railroad To Serve Oil Fields

By Special Correspondent

WASHINGTON, Sept. 26.—Neither fear of overproduction of crude oil nor motor truck competition palsies the hands of the promoters of an extension of the Clinton & Oklahoma Western railroad from Cheyenne, Okla., to Pampas, Tex., a distance of 95 miles. So terrific has been the competition of the motor truck for the business of a railroad that construction of as much as 100 miles of railroad has become a news item of national importance.

About the only exception to that is the construction of new lines into the forests of southern Oregon.

The Interstate Commerce Commission has authorized the Clinton & Oklahoma Western to build the 95 miles needed to extend its relatively small line to Pampas, Tex., where it will get oil traffic from connections and to make possible the development of production in the promising land through which it will run. In its application for a certificate of public convenience and necessity the Clinton & Oklahoma Western said it desired to extend its line so as to get petroleum traffic at Pampas, to make possible the drilling of wells along its right of way and to engage in hauling oil field supplies. Those reasons appealed to the regulating body and it has issued its certificates. The new line will cost a little less than $4,000,000 and will be completed in 1929.

Stillman Says Imperial Won't Pay Extra Now

NEW YORK, Sept. 26.—New York newspapers quote President C. O. Stillman of Imperial Oil, Ltd., as saying there will be no special distribution to stockholders for the present. Mr. Stillman referred to a statement he gave the *Wall Street Journal* Sept. 2 when Imperial shares were rising in the market in which he said:

"The oil industry is not in a flourishing condition at present and the movement in oil stocks seems to be of a speculative rather than commercial inspiration.

"There is absolutely no development in the Imperial Oil affairs at present, nor in our opinion is there likely to be, which would account in any way for the existing movement in the market value of its shares. There has been no consideration of any further distribution to shareholders of the company."

THE OIL INDUSTRY EXCHANGE

Positions Wanted

C. A. Knight recently returned from Argentina where he was employed by the Bethlehem Steel Co., in the capacity of General Superintendent of Refinery, wishes to make connection with some Company as Superintendent or in an Engineering capacity. Address 924 North Lawrence, Wichita, Kansas.

CREDIT MANAGER, seventeen years experience with two large oil companies. Thirty-seven years old, married, best references. Available immediately. Address Box 955.

YOUNG MAN, with office at New York and over twelve years experience selling Exporters and Eastern jobbers, desires to represent Western or Eastern refiner on commission basis, selling this trade Bright and Steam Refined stocks, Gasoline, Kerosene, Neutrals, Wax etc. Thoroughly acquainted with trade. Best references.
Address Box 956

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We have an opening for two more High Grade specialty salesmen to call on the Wholesale Oil Trade. Only men of proven ability and who know the trade will be considered.
The Air Scale Company,
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Service and Sales Engineer (preferably graduate) over 30—with minimum of three years actual service experience in Railroad Lubrication. State details fully.
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